YACHTING

VOLUME XII, NUMBER 4 OCTOBER, 1912 25 Cents a Copy $2.00 a year

MAPLE LEAF IV TEARING DOWN THE HOME STRETCH ON THE LAST LEG

How Maple Leaf IV Took the Cup Back to England

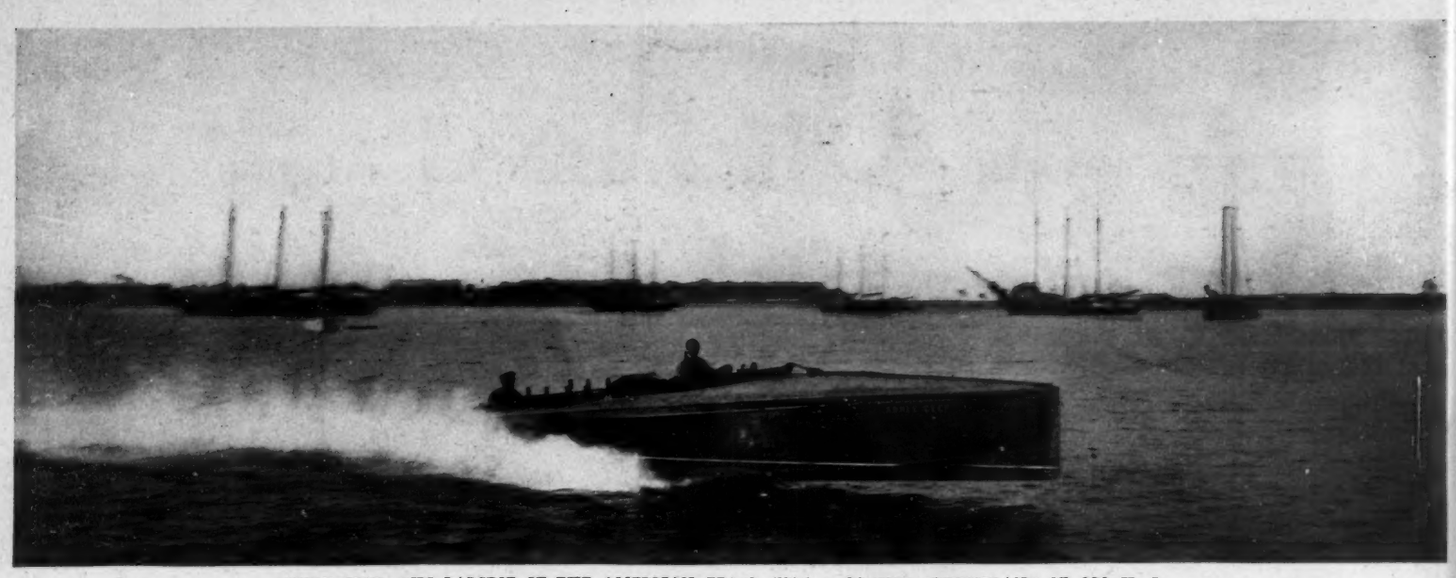
By HERBERT L. STONE

PHOTOGRAPHS BY M. ROSENFELD AND E. LEVICK

AFTER a stay here of five years, gathering dust in the lockers of the Motor Boat Club of America, the British International Motor Boat Trophy, more familiarly called the Harmsworth Cup, is making a journey back to England for a somewhat indefinite period. The reason for her journey lies in the speed and endurance (especially the latter) of a certain long, sleek, mahogany craft called Maple Leaf IV, owned by E. Mackay Edgar, whose name is connected with several other attempts to lift the cup in which he was denied even a run for his money, and driven by one T. O. M. Sopworth, who has considerable reputation as an aviator. This Sopworth is a lanky, nonchalant chap to whom the driving of a 45-miles-an-hour motor boat means no more than the delivery of mail by aeroplane to an ocean liner outward bound for sea. In the most unconcerned way he would climb into the high, boxlike seat on the after deck of the British challenger, without the usual dramatic strapping of the ever-present life preserver, open her up wide and shoot across the starting line with loosely fitting coat and necktie streaming out behind him in the wind—easily the most picturesque figure on the course.

This Maple Leaf—the third of her name to be seen in this country—was one of a team of two new British boats that were sent over after the premier motor boating trophy of the world, and she demonstrated again what the Dixie III proved two years ago, that a race (especially a motor boat one) is not always to the swift, but to the boat with the greatest endurance, for at least two of the American team showed themselves the faster craft over a good part of the 30-mile course; only they weren't the fastest at the time that counts—namely, on the last lap with the finish line at the end of it.

It is always disappointing to lose a hard-fought race, and especially if your boat has led for some seven-eighths of the way and then drops back on account of an accident to her propelling plant; but it can scarcely be called hard luck, for in such races the machinery and fittings of a contender should be strong enough to carry her over the stipulated course, and if they are not then we cannot blame Dame Fortune. This is not to say that the engines of the American boat Ankle Deep faltered, for a truer pair of 8-cylinder power generators has been seldom seen, but when a boat twists her shaft off close to the propeller the best engines in the world cannot make that boat win. At any rate, it was just this accident that lost Ankle Deep, the largest of the American team, the series when she was about a mile ahead and had led the English boats for some 26 or 27 miles of the 30 nautical mile course. Whether or not her helmsman, Count C. N. Mankowski, swung her too sharply at the second buoy on the last



ANKLE DEEP, THE LARGEST OF THE AMERICAN TEAM, WAS A 32-FOOT HYDROPLANE OF 300 H. P.

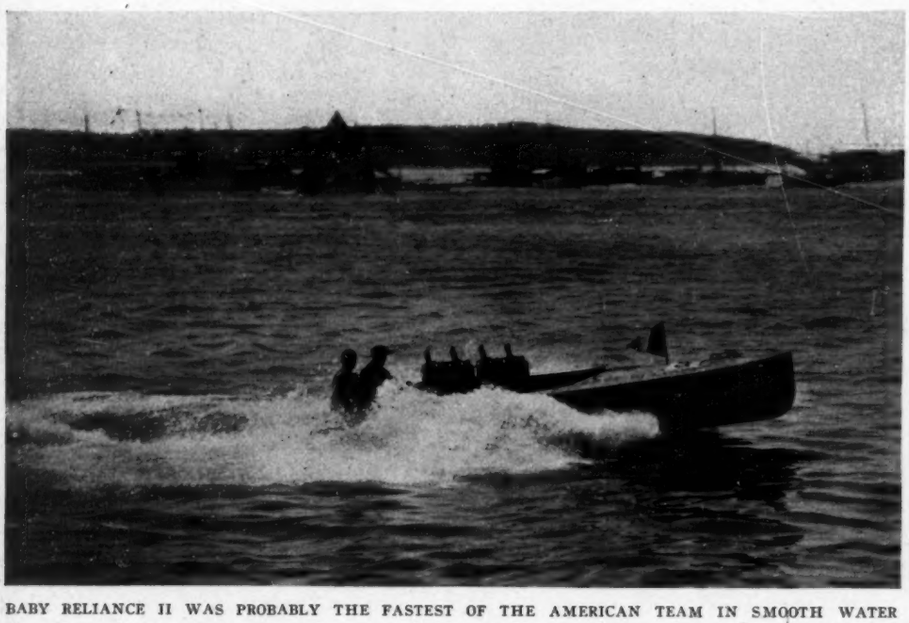
lap is not certain, but immediately after passing this point she was seen to swerve violently and made a complete circle before she was stopped.

This boat and Baby Reliance II had already raced their heads off in the early stages of the race, and there was no American boat on hand to stave off the rush of Maple Leaf as she swept on over the last three miles at a record-breaking speed and crossed the line a winner. The third American boat, Baby Reliance III, which ran beautifully throughout, was too far behind to take up her share of the burden, by reason of a delay of 2 minutes and 55 seconds at the start in getting her engines working—a handicap she could not overcome on account of the terrific speed set, though on actual elapsed time she was only 35 seconds behind the winning Maple Leaf, which had set a new world's record in this race of 43.125 miles for the full 30-mile course.

All this happened in the last race. There had been two races previous to this, the first of which was won by Baby Reliance II in record-breaking speed, averaging 42.679 miles an hour, while the second race went to the Maple Leaf in the slow time of 1 hour, 6 minutes and 50 seconds, or an average of 30.90 statute miles an hour. The reason for this slow time was due to the fact that all of the American team were having trouble in the rough water and the English boat did not have to extend itself, taking 16 or 17 minutes to the 7½-mile laps which she had covered in 12 minutes the day before. This gave one race of the series to each country, and made necessary the third race, the first time in the history of the cup that three races have been required.

Though the week preceding the start of the Internationals on August 31st had been devoted to a series of elimination races, it was not until half an hour before the actual start of the race that the American team was selected. It was a most unsatisfactory series for all concerned, no definite contest worthy of the name having been run, most of the boats being sent over a course of varying lengths, at different times, when conditions suited them, while with one or two exceptions their performances never gave any indications of championship form.

Ankle Deep showed early in the week that she was a boat of high caliber and one of the fastest of the American aspirants. Baby Reliance II, although only a 20-footer, showed wonderful bursts of speed, and when the water was smooth ran very consistently. These two boats were the logical choices for the team. Peter Pan V, after having her engines overhauled during the first three days of the week, went out and did 40.08 miles an hour over three laps of the International course under fairly rough water conditions. Why this boat was not chosen for the third member of the team on her previous performances instead of Baby Reliance III is not known, though it must be said that on the last day of the Internationals the running of Baby Reliance III justified the committee's choice, though nothing she did before had indicated that she was in this class.



BABY RELIANCE II WAS PROBABLY THE FASTEST OF THE AMERICAN TEAM IN SMOOTH WATER

One thing the races demonstrated, and that is that a 20 or 26-foot boat is too small for an international race over such a course as that at Huntington, several miles of which is in the open Sound beyond headlands, where the average summer breeze kicks up a chop that is disastrous to a 20-footer at upwards of 40 miles an hour. A sea that the Maple Leaf could take with no trouble at all tossed the little fellows about in a dangerous fashion and sank two of the boats in the trials.

The final choice of the American team resulted as follows:

Boat, Ankle Deep; type, 32-foot Crane hydroplane; power, 300 H. P. Sterling; owner and helmsman, C. N. Mankowski; engineer, F. Grennon.

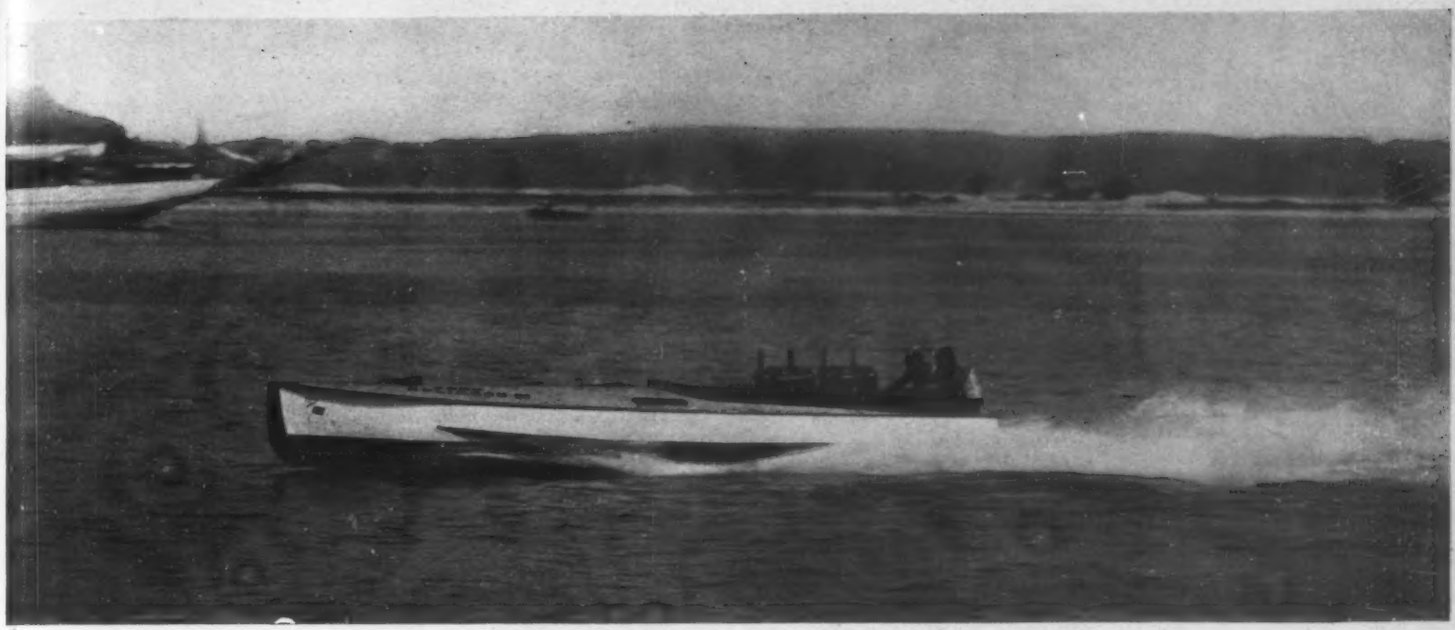
Boat, Baby Reliance II; type, 20-foot Smith Ryan hydroplane; power, 150 H. P. Sterling 8-cylinder engine; owner and helmsman, J. Stuart Blackton, Bernard Smith; engineer, W. Bughe.

Boat, Baby Reliance III; type, 26-foot Smith Ryan hydroplane; power, 150 H. P. Sterling 8-cylinder engine; owner and helmsman, Mrs. J. Stuart Blackton, W. Van Nostrand; engineer, "Dutch" Flaherty.

The English boats were:

Boat, Maple Leaf IV; type, 40-foot Saunders-Fauber hydroplane; power, 600 H. P. Austin Motor Co. two 12-cylinder engines; owner and helmsman, E. Mackay Edgar, T. O. M. Sopworth; engineer, A. Stapleton.

Boat, Mona; type, 26-foot single-step hydroplane; power, 120 H. P. Wolseley engine; owner and helmsman, Marquis of Anglesey, Montagu Batting; engineer, F. Murtough.



BABY RELIANCE III RAN A WONDERFUL RACE ON THE LAST DAY

The third member of the British team was to have been Mr. N. C. Neill's Milmar, a 26-foot hydroplane, but at the last minute it was decided not to send her across.

The first race was scheduled for 2 o'clock on August 31st, but at the request of Mr. E. Mackay Edgar, the owner of Maple Leaf, the start was postponed thirty minutets to give him time to put on a new rudder to replace one that he had broken the afternoon before when out for a trial spin.

Unusual interest was taken in this first race, and the beautiful course between Lloyd's and Eaton's Necks was crowded with pleasure craft of all kinds. Around the finish line they were anchored so thickly that those behind had trouble seeing over those in front, but the course was well patrolled by the revenue cutter officers in launches and was kept clear at all times.

Before the preparatory signal Maple Leaf was seen coming slowly up the course, but it was not known until after the starting gun fired that she was having troubles of her own, the seat of the difficulty being a clutch that would not hold. The crew of Mona proved the best judges of time and hit the line first, 2 seconds after the starting gun. Ankle Deep was right behind her, however, and crossed 2 seconds later. The two "Babies" were hanging together and went over some 10 seconds later, the four boats churning up the wide course into a mass of foam as they tore down for the first buoy, Baby Reliance II, which soon pulled out ahead, being easily picked out by the clouds of spray she threw from each side as she hit the little waves that the southwest wind was kicking up. British hopes went down when it was seen that Maple Leaf did not start and that her crew was busily working on the mechanism as she drifted back of the committee boat toward the shore, and it looked as if Mr. Mackay Edgar's hard luck was still pursuing him.

While they were still working, Baby Reliance II swept past after finishing the first lap, having made the 7½ miles in an elapsed time of 11 minutes and 43 seconds, the fastest that it had ever been made in up to that time, being an average of 44.04 miles an hour.

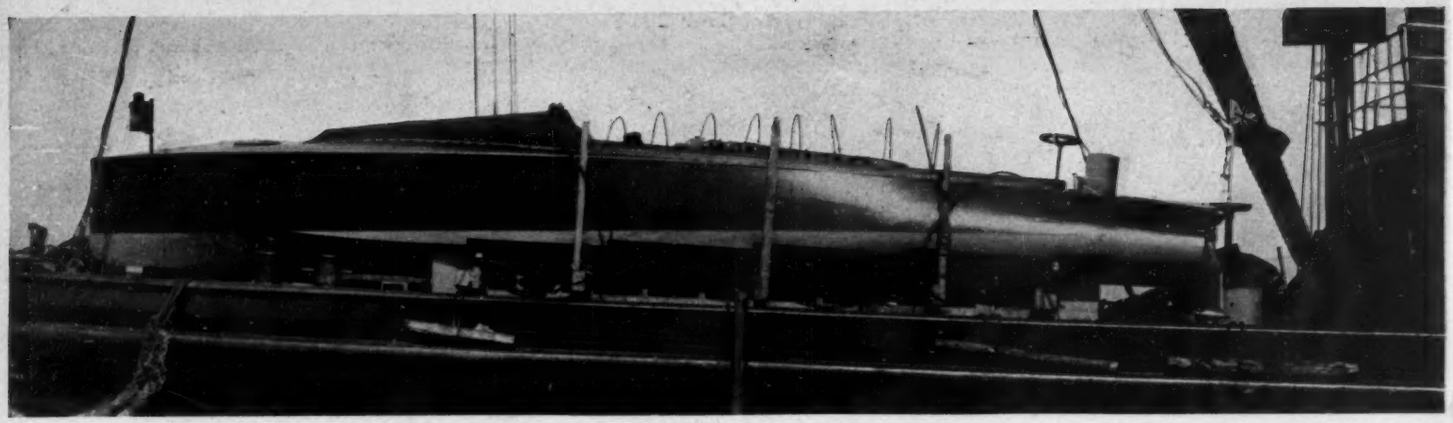
The next boat to pass was Baby Reliance III, some minute and a half later, while right after her came Ankle Deep, which had trouble with her engine just before she reached the line, and slowed down, but eventually got going again. Mona passed two minutes and a half after Baby Reliance II, showing that she was hardly in a class with the other boats as far as speed was concerned.

It was after these boats had started on their second lap that Maple Leaf finally got her engines going and started after the others on a hopeless quest at 2:53:39, evidently with the idea of qualifying for the next race.

Baby Reliance still held her lead, though Mona passed Ankle Deep and Baby III, both of which seemed to be having serious troubles, so much so that Maple Leaf IV caught and passed both of them in her second round, and went into third place at this stage of the race, though still hopelessly behind Baby II. These relative positions the three boats held until the end of the race. Ankle Deep did not finish the second round, while Baby III did not finish the third round before Baby II and the two English boats had finished the race, though they kept plugging at it and finally finished in time to qualify for the succeeding races.

It was a noisy finish that greeted Commodore Blackton's little boat as she swept over the line just 48 minutes and 39 seconds after the starting gun had fired, for the little 20-footer had not only captured the first "fall" for the cup, but had broken the record for the course and bettered Dixie IV's time of last year by almost three minutes. It was certainly a wonderful race, and her consistency was shown by the fact that the four laps did not vary more than 46 seconds, as the following summaries will show. It set the Americans thinking, however, when it was seen that the

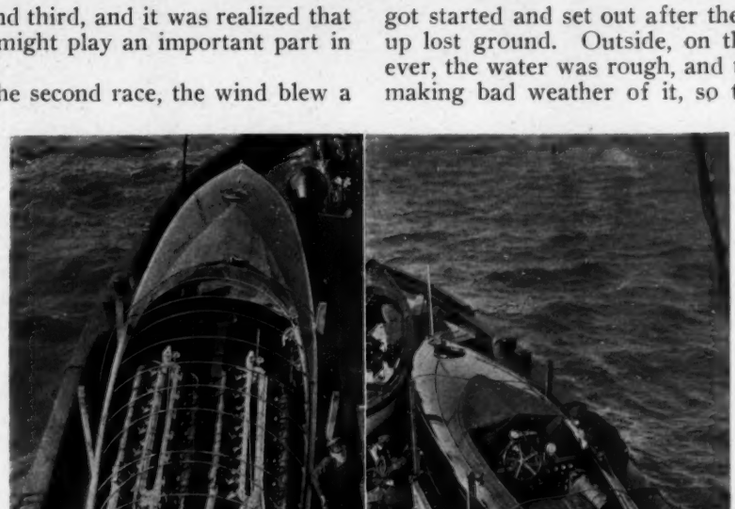
MONA, THE "ALSO RAN" OF THE BRITISH TEAM, WAS A VERY CONSISTENT PERFORMER, THOUGH NOT IN THE SAME CLASS WITH THE OTHER BOATS



MAPLE LEAF IV ON THE LIGHTER COMMISSIONER, SHOWING HER SIX STEPS

two English boats were second and third, and it was realized that rough water in any future race might play an important part in the outcome.

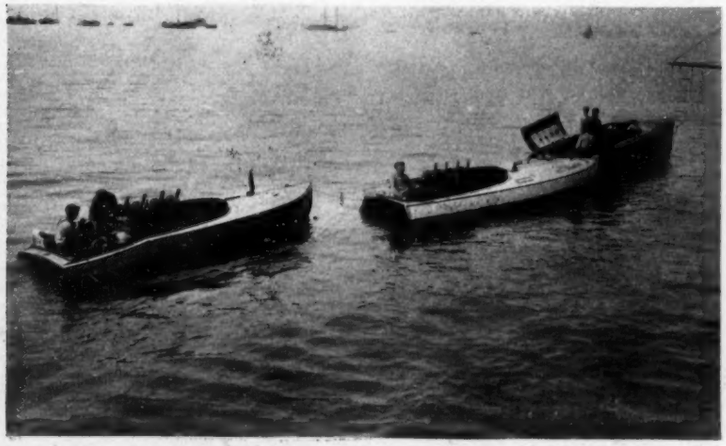
On Monday, the day set for the second race, the wind blew a gale from the northeast and such a sea was rolling into Huntington Bay that not one of the boats could have lived in it, so the race was postponed until the following day. While there was but little wind when the second race was called, the old sea from the easterly gale was still rolling off Eaton's Neck, making the going very hard, especially for the little fellows, though it did not bother the Englishmen.



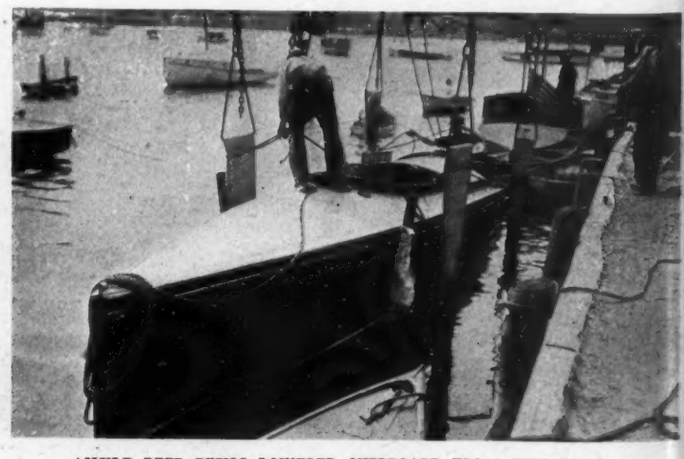
INTERIOR VIEWS OF MAPLE LEAF AND MONA, SHOWING ENGINES

The second race was started promptly at 2 P. M., Ankle Deep being the first across, although none of the boats would have won a medal for starting, and one missed the spectacular work of Dixie IV the previous year when she invariably hit the line with the gun. After Ankle Deep came Maple Leaf IV and Baby Reliance III some seconds later. Mona was nowhere to be seen and Baby Reliance II was in front of the Committee boat, her stern to the line, with "Wild Bill" Bughe, her engineer, working overtime to get her going. His perseverance was finally rewarded, and three minutes after the gun the winner of the previous race got started and set out after the leaders in a mad effort to make up lost ground. Outside, on the outer leg of the course, however, the water was rough, and the American boats could be seen making bad weather of it, so that no one was much surprised when Maple Leaf came first into sight on the first round and crossed the line at 2:17:35. She was followed a minute or two later by Baby Reliance II, which had made up a minute and 20 seconds of her lost ground and had passed all the others.

The other boats straggled across with wide gaps between them in this order: Baby Reliance III, Ankle Deep and Mona, which had finally started 7 minutes late. From then on the race was a procession, with Maple Leaf loafing over the course at a 16 or 17-minute clip, whereas she had done the laps in 12 minutes in the previous race, showing that she was not being pushed. The other boats kept straggling along, the Americans dropping farther and farther behind until at the finish the English boats were one and two with the three Americans struggling on in the rear, Baby Reliance II finishing last with only four of her cylinders working, the rest evidently having been put out of commission by water on her ignition system. Why the engines of this little boat were not protected by a hood of some



THE THREE AMERICAN DEFENDERS ALONGSIDE THE COMMITTEE BOAT



ANKLE DEEP BEING LOWERED OVERBOARD FROM THE DOCK

W. VAN NOSTRAND, HELMSMAN OF BABY III

CREW OF BABY II

C. N. MANKOWSKI, OWNER AND HELMSMAN OF ANKLE DEEP

kind is beyond understanding. If any boat needs protection for its engine it is a little, flat 20-footer such as Baby II on a rough course like Huntington, and it is probable that this second race might have ended differently had her engines been protected from the flying water.

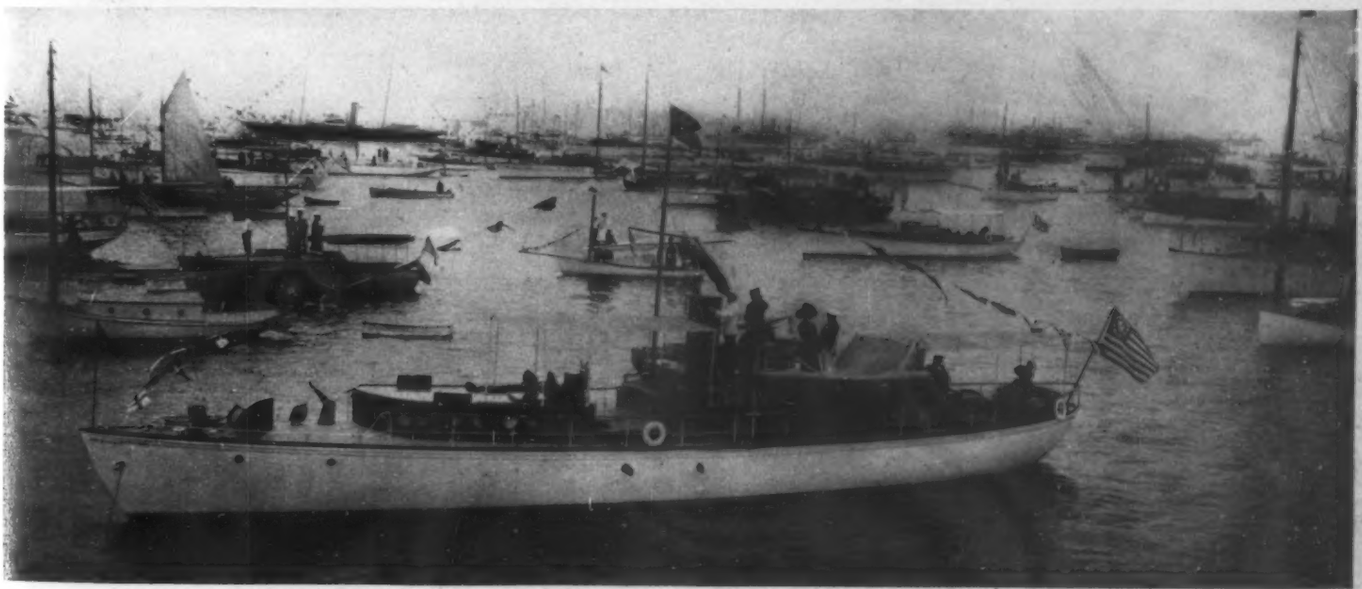
Maple Leaf IV got a noisy reception on finishing, which reflected the good feeling that was manifest on all sides for the English team, and showed the regard in which her popular owner was held. The results of this race showed that the English team was one to be feared, and it looked very much as if England would take the cup back if the water was any way rough for the next race.

Luckily for the Americans, however, it was not, and more ideal conditions could not be imagined than on the third day. The water was like glass, and the five boats were out ready to put up the race of their lives. This race was the most spectacular one of the three, and up to the last five minutes looked like a victory for the American boat Ankle Deep.

FROM LEFT TO RIGHT, MONTAGUE BATTING, T. O. M. SOPWORTH AND E. MACKAY EDGAR, OF THE BRITISH TEAM

Ankle Deep was first over the line, followed closely by Mona, Baby II and Maple Leaf, which was 25 seconds late in getting away. Baby Reliance III did not get away until 3 minutes later. Coming down the back stretch the first time, Ankle Deep and Baby II were seesawing in the lead, and as they passed the committee boat on the first round these boats were almost lapped, Baby making it in 11:46 and Ankle Deep in 11:48. About 33 seconds behind came Maple Leaf IV, running like an ocean liner and as steady as a church. Around the course they went again, and still the two American leaders hung together and gradually drew away from Maple Leaf. It was apparent to all that these boats were faster than the English craft, that conditions were right, and that if they were properly handled the Cup would stay in this country.

At the finish of the second round, Ankle Deep held the lead by 26 seconds, with Baby II second and Maple Leaf third. The first two boats were running their heads off and making the fastest race ever seen in this country. On the third round Ankle Deep made the fastest time of any lap in the series, covering the distance in 11 minutes and 34 seconds, or an average of 44.51. Baby II dropped back on this round and was passed by Maple Leaf. As they entered into the fourth and last round Ankle Deep led Maple Leaf by a minute and 10 seconds, which in distance was something near a mile, and looked for all the world a winner until the accident mentioned at the beginning of this story happened; and in-



THE INSIDE OF THE COURSE AT HUNTINGTON WAS LINED WITH THE SIGHTSEEING FLEET

stead of seeing Ankle Deep coming down the back stretch for the last time, the spectators on the fleet gasped as the long hull of Maple Leaf was seen tearing up the water off Lloyd's, while nothing could be seen of the other American boats. She finished just 48 minutes and 16 seconds after the starting gun with an average speed of over 43 miles an hour. The next boat to show up was Baby Reliance III, 3 minutes and 30 seconds later. This is the boat that was 3 minutes and 3 seconds late in starting. She had run a wonderful race, with "Dutch" Flaherty keeping every cylinder firing like clockwork and little Van Nostrand handling her to perfection, and had it not been for her delay at the start she would have given the Englishman the race of his life.

Ankle Deep did not finish, owing to the twisted propeller shaft, while Baby Reliance II and Mona both broke down on the third lap and had to give it up.

It was a great race, and it is no wonder that Mr. Mackay Edgar danced a Highland fling on the deck of the yacht from which he saw it when Maple Leaf got the gun at the finish and the salute of the assembled fleet.

A summary of the series would seem to show that while the American team was the faster, the British boats were better suited to conditions as they are usually found at Huntington. On the whole, all of the boats showed a greater consistency than heretofore, and it is the only time on record that all the boats entered finished two races and qualified for the final event. We shall still have to strive to overcome the tendency to leave everything on our boats to the last minute, and for this reason it is probably well that we shall have to go to England for the Cup next year, as in this case we shall probably have to have the boats in readiness before they are shipped, and will be spared the sight of shifting engines and making other changes the night before the race.

COMMODORE J. STUART BLACKTON, TWO OF WHOSE FLEET WERE ON THE AMERICAN TEAM

A summary of the three races follows:

FIRST RACE, AUGUST 31. START, 2.30 P. M. COURSE, 30 NAUTICAL MILES.

Boat.	1st Round. Finish. Elapsed Time.	2d Round. Finish. Elapsed Time.	3d Round. Finish. Elapsed Time.	4th Round. Finish. Elapsed Time.	T'tal Elapsed Time. H. M. S.
Baby Reliance II.	2 41 43	2 53 44	3 06 10	3 18 39	48 39
	11 43	12 01	12 26	12 29	
Mona	2 44 10	2 58 22	3 12 29	3 26 38	56 38
	14 10	14 12	14 07	14 09	
Maple Leaf IV.	3 03 56	3 16 18	3 28 37	3 41 01	1 11 01
	33 56	13 38	12 19	12 24	
Baby Reliance III.	2 43 16	3 17 56	3 36 53	3 59 58	1 29 58
	13 16	34 40	18 07	23 05	
Ankle Deep.	2 44 17	3 38 26	4 19 10	4 58 38	2 28 38
	14 17	54 09	30 34	39 28	

Baby Reliance II., average speed 37,113 knots, 42.679 miles.

SECOND RACE, SEPTEMBER 3. START, 2.00.

Boat.	1st Round. Finish. Elapsed Time.	2d Round. Finish. Elapsed Time.	3d Round Finish. Elapsed Time.	4th Round. Finish. Elapsed Time.	T'tal Elapsed Time. H. M. S.
Maple Leaf IV.	2 17 35	2 32 34	2 49 22	3 06 50	1 06 50
	0 17 35	0 14 59	0 16 48	0 17 28	
Mona	2 23 49	2 39 25	2 55 11	3 09 54	1 09 54
	0 23 49	0 15 36	0 15 46	0 14 43	
Ankle Deep.	2 21 53	2 39 44	2 54 46	3 11 29	1 11 29
	0 21 53	0 17 51	0 15 02	0 16 33	
Baby Reliance III.	2 20 47	2 38 29	2 55 50	3 12 10	1 12 10
	0 20 47	0 17 42	0 17 21	0 16 20	
Baby Reliance II.	2 18 49	2 37 18	2 55 03	3 14 16	1 14 16
	0 18 49	0 18 29	0 17 45	0 19 13	

Maple Leaf IV., average speed 26.87 knots, or 30.90 statute miles. Speed, best lap 30 knots, or 34.50 statute miles an hour.

THIRD RACE. START, 2.00

Boat.	1st Round. Finish. Elapsed Time.	2d Round. Finish. Elapsed Time.	3d Round. Finish. Elapsed Time.	4th Round. Finish. Elapsed Time.	T'tal Elapsed Time. H. M. S.
Maple Leaf IV.	2 12 21	2 24 21	2 36 16	2 48 16	48 16
	12 21	12 00	11 55	12 00	
Baby Reliance III.	2 15 08	2 27 22	2 39 38	2 51 46	51 46
	15 08	12 14	12 16	12 08	
Ankle Deep.	2 11 48	2 23 32	2 35 06	Disabled	
	11 48	11 44	11 34		
Baby Reliance II.	2 11 46	2 23 58	Disabled		
	11 46	12 12			
Mona	2 14 49	2 34 10	Disabled		
	14 49	19 21			

Maple Leaf IV., average speed entire course 37.50 knots or 43.125 miles; or actual time, average 37.90 knots or 43.585 miles.

Baby Reliance III., best lap at 37.113 knots or 42.68 miles; elapsed, full course, 34.615 knots.

Ankle Deep, best lap at 38.71 knots or 44.51 miles. Mona, best lap at 30.25 knots or 34.787 miles.

Baby Reliance II., best lap at 38.298 knots or 44,053 miles; first lap, actual time, at 40 knots or 46 miles.

Commodore H. H. Melville, Joseph H. Hoadley, James A. Blair, Jr., John Shaw, H. R. Sutphen, Com. Heckscher, and others held a meeting after the race and informed Mr. A. Jackson Stone, the representative of the Royal Motor Yacht Club, that they had decided to issue a challenge for the Cup for next year, and a full team will in all probability be sent over. It is hoped that we will profit by the experience gained at this year's races.

THE HISTORY OF THE CUP

The British International Trophy was presented for international competition in 1903 by Lord Northcliffe, formerly Sir Alfred Harmsworth, proprietor of the London "Daily Mail." It was offered to stimulate interest in the building and racing of high-speed motor boats, and was open to competition by all countries. The offering of the trophy aroused great interest in England, and the first contest was in 1903, the race being held at Queenstown. It was won by Napier, owned by Mr. S. F. Edge. The course for that race was 7.8 knots, and the average speed of the winner was but 18 knots an hour.

In 1904 France was represented, and the race was held at Cowes. Under the condition of the rules then in vogue, England was represented by two boats—Napier I and Napier II—and a race was held between these two to determine which of them should defend the cup against the representative boat of France. In the elimination race that took place, Napier I was the winner. Through some accident during the race she began to leak badly, and it was decided that Napier II should defend the cup, with Trefle-a-Quatre representing France. The race was won easily by Napier II, when a protest was made on the ground that Napier II had been defeated in the trial heat by Napier I, and, therefore, was not the representative boat, and that Trefle-a-Quatre was entitled to the cup. Thus on a technicality the cup was awarded to the French boat.

In 1905 Lord Montagu, of Beauleau (Hon. John Scott Montagu), with Lionel de Rothschild, became the owner of Napier II, and having challenged France for the cup, raced at Arcachon, France, and regained for England possession of the cup.

With but one exception no greater interest was ever manifested in a race for the cup than the one held in 1906, when for the first time America was represented, having challenged through the Automobile Club of America with Challenger owned by Mr. W. Gould Brokaw.

The race was the greatest held up to this time, and the cup was won by Yarrow Napier, owned by Lord Montagu.

With that spirit of gameness that comes from defeat, America set about securing another representative, and in 1907 Dixie, owned by Mr. Edward J. Schroeder, was the challenger, the Motor Boat Club being the challenging club. This attempt to lift the cup was successful, for, at Cowes, Dixie showed her stern to the English defenders, and never was the race in doubt.

In the race here for the cup in 1908 England was represented by two fast boats—Wolseley-Siddeley and Daimler II. The race was held in Huntington Harbor, L. I., in August. While previous to the race great speed had been claimed for the boats, yet the prediction made by the wise ones that the speed of the winner would not be in excess of 28 knots was correct, for the average speed of Dixie II was 27.75 knots, and she beat her nearest competitor by 49 seconds.

In 1910 America won with Dixie III, which defeated Pioneer and Zigarella, while last year Dixie IV beat the English team.

HAWAII, THE SANDWICH ISLAND REPRESENTATIVE

SEAFARER PASSING HAWAII AFTER THE START

NATTOSE, THE HUSKY CANADIAN YAWL

The Honolulu Race of 1912

Two Schooners from California, One from Honolulu and a Yawl from British Columbia Sail in the Twenty-two Hundred Mile Race from San Pedro to the Sandwich Islands

By T. F. DRUMMOND and H. A. CURTISS

WHEN Commodore MacFarlane of the Hawaiian Yacht Club sailed into the Golden Gate aboard his yacht La Paloma, in the spring of 1906, he had full authority to arrange for a biennial yacht race from the Pacific coast to Honolulu. The earthquake and destructive fire put Frisco out of the racing game that year, but the South Coast Club of Los Angeles entered Lurline, while Anemone carried the colors of the San Diego Club. Lurline won, establishing the record for the course, 12 days 5 hours; Anemone finished second and La Paloma third.

In 1908 the Honolulu boys sent a brand new Crowninshield craft named Hawaii, the South Coast Club again pitted the speedy Lurline, San Diego placed its hopes on Lady Maude and Seattle got into the game with Gwendolyn II. Lurline again proved an easy winner, followed by Gwendolyn II, Lady Maude and Hawaii. Two years later the Honolulu lads sailed into the winner's berth with Hawaii, defeating the South Coast Club's Sweetheart and the Mollilou, entered by the Aeolian Yacht Club of Alameda. Which brings the Pacific Ocean classic to this summer's swirl.

This year's race, which took place in June, brought out three entrants from the Pacific Coast and the Hawaiian champion.

Of them all, perhaps the San Diego entry is the best known. Lurline left the Silver Gate on a tuning up cruise June 5, manned by a novice crew from the ranks of the San Diego Yacht Club. A course was laid almost due west, with sails sheeted home, and for 150 odd miles the old schooner slipped along through a heavy sea and thick weather, logging an average of about 7 knots. Then the ship came about and headed north for another tack of about the same length. Raising San Clemente, Lurline circled the island and squared away for Catalina. At Avalon the hook was dropped and the first leg of the practice cruise was finished.

Crossing from Avalon to San Pedro, Lurline was favored by a brisk breeze, and the old rambler slipped along with the same smooth ease that has made her name famous on the Pacific Coast.

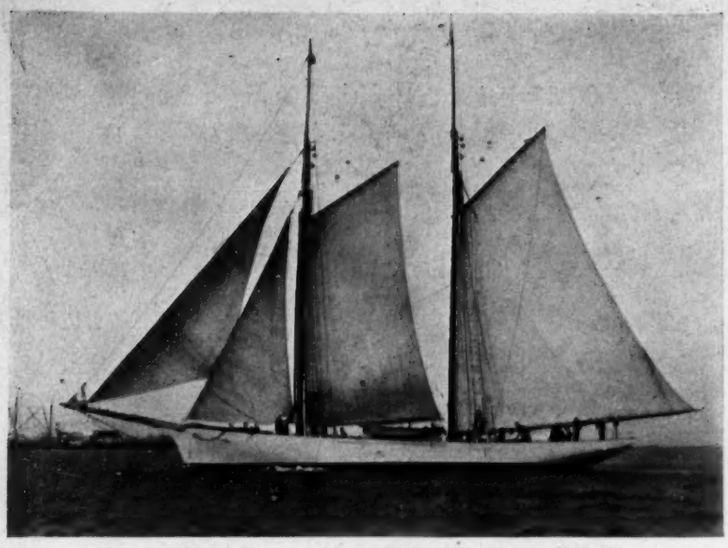
Anchoring at San Pedro, several days were passed looking after the many details a race of this character develops. Then Captain Harris again put to sea for a short cruise, to drill the crew with the light sails.

The Race

Had the South Coast Yacht Club been patron saint or favorite child of the wind gods and storm clouds, or had it taken a first mortgage past due on a perfect day, it couldn't have bettered the weather that prevailed when the gun boomed that started four white wings on the fourth biennial transpacific yacht race, June 16, at 1 o'clock. The combination of tempered sun heat, a few hours on the restless and an opportunity to see the flotilla of deep-sea ramblers make their getaway in a chase that would put sea legs on a bilious temperament proved a lure that drew hundreds to San Pedro's water front and then some more hundreds. The mob tumbled aboard any old craft that would float and keep within kodak range of the racers.

There might have been jockeying by the skippers, but to me it looked like hanging around until train time and then skedaddling. Hawaii was first over the line, followed by Seafarer, Lurline and Nattose. The island boat held the lead long enough to register and then Seafarer slipped into sharp focus. Norris' craft drew away from Hawaii with ridiculous ease and quickly assumed a commanding lead.

Meantime Lurline, from third position, went after the flying leaders and soon passed Hawaii, and to the stake boat gained a little on Seafarer, but after rounding the mark the Frisco yacht showed she was queen of the fleet in the light breeze. Nattose proved to be a mild sensation by catching Hawaii on the run to the mark and by sticking to her until they passed from sight. Ten miles from the line Seafarer had a two-mile lead over Lurline, part of which is accounted for by the difference in starting time. Just what Seafarer could do in the heavy trades remained to be seen—in light airs she is probably the best on the Coast. Listening to the opinions of nautical sharps at the start of this race it would seem that Lurline and Seafarer are picked to fight it out for first honors, with neither a pronounced favorite.



THE OLD LURLINE AGAIN SLIPPED THROUGH A WINNER

CAPT. ASHE AND THE CREW OF NATTOSE

When they had gained the open sea all four racers stood south close hauled on the starboard tack for about thirty miles to avoid the fluky airs and currents in the vicinity of the Santa Catalina group of islands. When about off San Juan Point each one came about and headed west for the center point of the open horizon. Seafarer was now leading Lurline by something over two miles, and Hawaii plowed along under all working sail about a mile in the wake of Lurline, while Nattose brought up the rear.

Next day brought light airs and a calm sea, which was just Lurline's weather. Nevertheless, Seafarer managed to draw away from the older boat, outfooting and outpointing her, and by night was out of sight ahead—while Nattose and Hawaii had dropped over the horizon astern.

Once clear of her competitors Seafarer made the mistake, as it proved, of standing again to the south'ard until she reached 21° N., the latitude of Honolulu, when she ran directly west for that port. This not only carried her into a region of calms and baffling airs and delayed the time of picking up the trade winds, but it also made her travel several hundred miles farther than if she had followed the great circle track.

During the first four days all the vessels were worried by calm weather. Hawaii, especially, had been praying for a real breeze of wind, so it was extremely trying to Captain Stroud and his men to see the topmasts swinging across the zenith in time to the long Pacific heave, while the rigging thrashed and blocks creaked at every roll, and the reef points slatted against sails which had not air enough to fill them out.

Meanwhile Seafarer and Lurline had sneaked out over the far horizon ahead, and Captain Stroud had begun to fear that when once these vessels picked up the trades they would run them down to the Islands before Hawaii could get to where the breeze began.

However, on the night of the fourth day there came a series of varying puffs which shortly after daylight settled down to a steady breeze, freshening until the full force of the North Pacific trades was attained.

Although she did not know it, Lurline had now come into leading place, thanks to Seafarer's change of course. She picked up the trades several hours ahead of Hawaii, and both schooners tore along out of sight of each other on the long reach west, with sheets started and everything taut and drawing, leaving the green sea miles astern at a rate of some 200 a day.

The breeze held steady in force and true in direction. It was just a case of steering the course and keeping all the "kites" on her. The latter, however, was not so easy as it sounds. On the morning of June 21st, Lurline lowered her mainsail in order to reeve a new maintopsail sheet, as it was so rough that Captain Harris did not want to send a man out on the end of the gaff to do the job while the sail was set. While the men were busy with this they suddenly heard the crack of splintering wood and looked aloft to see the foretopmast go overside. The big, reaching jib-topsail, which was responsible for the trouble, thundered out a parting salute and streamed off to leeward with what was left of the spar trailing in the water behind it.

The wreckage was soon cleared away and Lurline proceeded more sedately with her sail shortened "by the Almighty," as the Gloucestermen say.

The last which any of the rivals saw of each other was when the Hawaii sighted the Nattose on the second night out from San Pedro. From this time on until the Sandwich Islands hove in sight, neither sail, smoke or spar was seen from any of the racers for the eleven or more remaining days. On the last night of the voyage, while Hawaii, with a squally offshore breeze, was skirting the bold coast of Maui (the second island S. E. from Honolulu in the Sandwich group) her main gaff cracked and threatened to carry away altogether, but the peak halyard bridles distributed the load so evenly that it still remained in place.

The schooner was flying along at a thirteen-knot clip and rather than slow her down Captain Stroud determined to hold on as long as he could. However, the wind continued to come with increasing force until about two hours later, when off Molokai

SEAFARER WAS THE LARGEST OF THE FLEET

CAPT. HARRIS AND THE AMATEUR CREW OF LURLINE

CAPT. LOU B. HARRIS OF LURLINE SHOOTING THE SUN

Light, a squall of 40 miles an hour with a driving rain burst down upon them and blotted everything out from sight.

The disabled mainsail had to be got down on the run and a storm trysail set in its place. In the midst of the confusion and while the schooner was lying over on her beam ends with the big mainsail thrashing in the wind and waving around the broken end of the gaff in great circles like some giant flail threatening to create havoc the minute it was lowered within striking distance of the deck, there came a report like that of a six-inch gun and a new tremor seized the vessel.

"Foretopsail sheet's parted, sir!" some one forward sang out.

Hawaii carries a square topsail and topgallant on her fore. There was nothing for it but to clew the sail up as quickly as possible and send a hand aloft to reeve a new sheet. Fortunately her masts and standing rigging were good and strong and the sticks stayed aboard.

Lurline ran in across the finish line off Diamond Head, Oahu, at 10 hours 27 minutes, local time, on June 30th, out 13 days, 17 hours and 3 minutes from San Pedro. She was soon at anchor in Honolulu Harbor, where a great ovation was given her plucky crew by the members of the Hawaiian Yacht Club.

THE TROPHY FOR THE HONOLULU RACE

Seafarer finished next morning at 4:30 and Hawaii at 9:02, local time. Although third to cross the line the island schooner won an easy second place on her time allowance of 8 hours 23 minutes. She is 12 feet shorter than Seafarer and 20 shorter than Lurline on the waterline. This fact, together with the plucky race which she put up, made everybody glad to welcome her among the winners. All the contestants unite in proclaiming this year's event the most spirited and successful race which the Pacific Ocean has ever seen—unless we except some of those early events in which our notorious fellow yachtsman, Sir Frank Drake, was the principal actor.

Some statistics of the boats follow:

Yacht.	L. O. A.	L. W. L.	Master.	Time Allowance.
Seafarer	91.6	64	L. A. Norris	Scratch.
Lurline	86.3	72	L. B. Harris.	7 minutes 49 seconds.
Hawaii	69.4	52	Wm. H. Stroud.	8 hours 23 minutes 45 seconds.
Nattose		57.3	G. P. Ashe.	10 hours 38 minutes 45 seconds.

Lurline is a 47-ton register wooden schooner of the old-fashioned clipper-bow type built in 1883 by M. Turner, of San Francisco, from his own designs. She has the greatest waterline length (72 feet) and beam (21 feet 3 inches) of any of the racers, and is a good representative of the old school of yacht design, which followed in general the lines of merchantmen, with only such modification for speed as was made possible by the lack of any need for hold space or carrying capacity. It is interesting to find a vessel of this variety which after more than thirty years of service is able to show her stern to the most modern of ocean racers. It would seem to imply that when it comes really to going to sea and mixing it up in deep water the old designs were about as speedy as anything which man's ingenuity can devise and considerably more comfortable, for the reason that old-timers like the Lurline found their bearings quickly and sailed on their bottoms instead of "on their ear," as the modern deep keel racers with all outside ballast have a way of doing.

In all fairness, however, it must be admitted that this race was hardly a test of Seafarer's capabilities, so far as design is concerned, owing to the fact that she had the misfortune to strike an unfavorable course—as stated above—considerably to the south of the track followed by the Lurline and outside of the great circle course.

Seafarer, of 42 tons net register, is a typical Crowninshield boat, and was built in 1910 by Rice Bros., of East Boothbay, Me. She is 64 feet on the waterline and 91 feet 6 inches over all. Her owner is Mr. L. A. Norris, of San Francisco, and Seafarer proved the propriety of her name by sailing half around the world to her new home on her maiden voyage.

Hawaii, owned by Mr. C. T. Wilder, of Honolulu, is also a Crowninshield design, and was built at Honolulu by Sorenson & Lyle in 1908.

The Nattose, of the Royal Victoria Yacht Club, is a large, able yawl.

Hints About Piloting, For You With a Power Boat

By PAUL FOLEY, LIEUTENANT U. S. NAVY

DIAGRAMS BY THE AUTHOR

FEW studies are more interesting, diverting, or fascinating in their appeal than that of the art of conning—that is, of conducting ships in safety through crowded channels. To the non-owner it gives a new interest to every trip by steamer, yacht or ferry. To the owner or prospective owner of a boat it means not only the safety of human life, but the satisfaction of invading a field which of all fields is one regarded as strictly professional.

According to the Report of the Commissioner of Navigation, there are no less than 300,000 motor boats in the United States. Of these 110,000 are over 25 feet long. Eighty thousand are located on the Atlantic Coast.

From Maine to the Gulf masters of sea-going vessels look upon these power boats as little other than a menace to safe navigation. If it can possibly be avoided the professional seaman blows no whistles to the amateur. He puts his trust in the little god who sits up aloft and takes a chance.

This condition seems to have grown out of a general misapprehension on the part of amateurs as to the real meaning of one and two whistles, when sounded as signals on the inland waters of the United States. To illustrate this, ask the first one of your yachtsman friends you chance to meet the meaning of "one whistle," blown by a tug in the Hudson River. Should he answer, as nine times out of ten he will, "I am altering my course to starboard"—that is, to the right—you will the better appreciate why to him the pilot blows no whistles, and you can answer in the words of a certain orderly known to fame, "Sor, the Captain says that he did not tell you to do no such dom thing."

There seems to be need of some one who will for the amateur sailor fill the role of the corporation lawyer, by indicating not so much the letter of the law (which is posted in a conspicuous place in the cabin of every vessel licensed to carry passengers), as the practice of that law—the law of the river.

The water-borne traffic of a big harbor like New York groups itself into two classes: permanent local traffic, including ferries, tugs, railroad barges, excursion steamers, and canal boats; and transient traffic, including sea-going merchant steamers, men-of-war, and the amateur yachtsmen.

The permanent local pilots have for the most part evolved a set of conventions among themselves, and follow routes defined almost as exactly as those of the city subway. Among one another they blow scarcely at all. In fact, it seems to be unquestionable that the more congested the shipping, the fewer the whistles blown. How often at the evening hour on the Hudson, in the days before the tubes, when the tide of river traffic was at its flood, has one seen three or four big ferries come charging down upon one another, only to go their several ways without a whistle signal blown; by previous agreement the Pennsylvania takes one route, the big Lackawannas a second, and the dinky old Eries a third. Whistle signals are blown only to the strangers and the transients.

Broadly speaking, there are two sets of conventions regulating the movements of ships. These are the International Rules, and the Inland Rules. The former apply to vessels of all nationalities upon the high seas. The latter are American rules which become effective inside lines marked by prominent headlands, or, where there are no such, inshore of a line approximately parallel with the general trend of the shore drawn through the outermost buoy or other aid to navigation, or system of aids.

In passing from the jurisdiction of one set of rules to that of the other, the meaning of certain conventional whistle signals, namely, one and two, changes somewhat. Under the International Rules, one whistle means invariably, "I am altering my course to starboard," that is, to the right; and two whistles mean invariably, "I am altering my course to port; that is, to the left. Under the Inland Rules, however, except when overtaking another vessel, one whistle means, "I am altering course to pass you on your port side"; and two whistles, "I am altering course to pass you on your starboard side. While the resulting changes are for the most part to the right and left respectively, they are not necessarily so. The following diagrams are drawn in illustration of this important point.

The first figure (No. 1) shows in a general way the entrance to the harbor of San Juan, Puerto Rico, a port under Inland Rules, but frequented for the most part by deep-water foreign shipping. The channel curves sharply to the left. The vessel A, entering the harbor, sounds "one whistle" to the vessel B, coming out; turns to port, against the whistle, but finally passes B on B's port side. There would be no point whatever in A blowing "two" if it meant "I am altering course to port," as that would

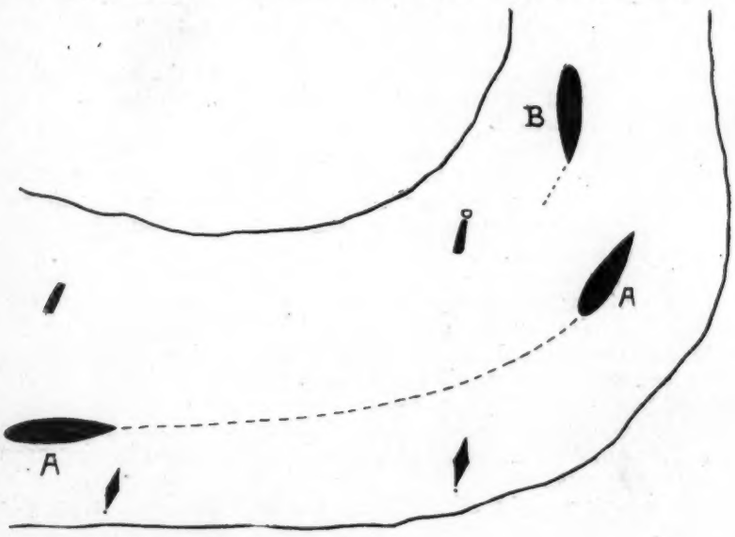


FIG. 1

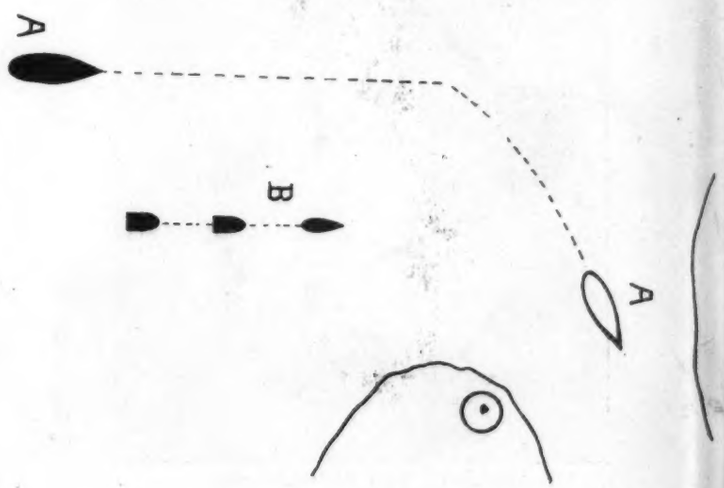


FIG. 2

simply mean that she was following the channel, and if she didn't follow the channel she would go aground.

The second figure (No. 2) shows the Battery, New York Harbor. The Staten Island ferry A, overtaking the tow B, blows "two," passes B on the two-whistle side (for overtaking vessels), and then crosses to starboard without further whistle.

It might be said that it is good seamanship for a vessel overtaking another from directly astern, as this ferry is doing, and desiring to pass ahead, to do so to the left, rather than to the right. Passing to the left leaves the vessel ahead free to manœuvre for vessels on her right, which by law she is required to do.

Continuing up the Hudson River, the vessel at A, Fig. 3, intending to turn to port and anchor at A-1, blows "one" to the ferry B, meaning simply that B can go ahead on her course.

If the vessel B were a steamer backing out from a slip, and then blew "one," it would mean that her stern was turning up stream, or her bow to starboard. In such cases, and also when vessels are backing down stream, it is customary to regard the stern as the bow and to blow whistles accordingly.

Fig. 4 shows a situation occurring at Old Point Comfort, Virginia, where two vessels each turn against the whistle. The vessel A, intending to turn to right as shown, blew "two" to the vessel B, coming down. B answered with "two." Both vessels turned to the right, or against their own whistles apparently, but finally passed each other to starboard. Had the pilot of B interpreted the whistle of A to mean "I am altering my course to port," in that case to follow the dotted line curving to the left, the two vessels would have collided where their real paths crossed and B would have been at fault.

As a general rule, when two steam vessels are crossing so as to involve risk of collision, the one that has the other on her own starboard hand, in this case A, keeps out of the way of the other, and should blow first. When sounded in such a situation, then, one whistle automatically means, "I intend to pass astern of you," and two whistles, "I think I can safely cross your bows, and will do so if you assent."

There is outlined in Fig. 5 a situation intended to show not only what is blown, but also when they blow. The tug A, with a tow, proceeding up the page, sees ahead three tugs, B, C and D, approaching with and without tows themselves. A determines to follow the dotted line in passing. The following is the procedure: A blows "one." B, the nearest vessel, answers with "one." C and D do not answer or blow themselves. A then blows "two." C answers "two." B and D do not answer. A lastly blows "one" again. D answers "one." B and C keep silent.

All of the above whistles might, and probably would, be exchanged in quick succession, and before A has anywhere nearly reached the position of B.

It would be a violation of all precedent for D to blow before B, but there is nothing in any rule to prevent her so doing. If there were a small power boat at E, her turn would follow that of C, and should she blow before C she would be in all wrong. A would not answer her at all should she do this, for fear of confusing the issue with the other vessels.

Professional pilots pay more attention to the vapor arising from the whistle pipe than they do to the actual sound of the whistle, sight traveling so much faster than sound. It follows that once the steam rises from the pipe, it is looked upon as one whistle, whether actual sound is made or not. The amateur finding his whistle pipe choked, often opens up to blow clear, stops, and then opens a second time for sound. He will then be considered as having sounded two whistles, although making only one noise. The absence of vapor is one of the very practical objections to the use of air whistles.

The law does not formally authorize a steamer to indicate to sailing vessels, by means of whistle signals, her own intended change of course. Such signals, however, are not infrequently blown, particularly by men-of-war, in Hampton Roads, on the Delaware and Hudson Rivers, and in Narragansett Bay.

The general prudential rule giving sailing vessels the right of way over steamers (except when overtaking vessels), must be accepted with some reservation on these waters. Large turning circles and sluggish control, a propeller partly out of water, the depth of the navigable channel, the necessity of keeping to the weather side of the fairway, and that of pointing fair for docks a long time in advance, are all factors influencing the movements of large steamers in rivers and harbors, and which, in the event of accident, would throw the burden of proof on the smaller vessel, even if under sail. A whistle signal sounded by a steamer

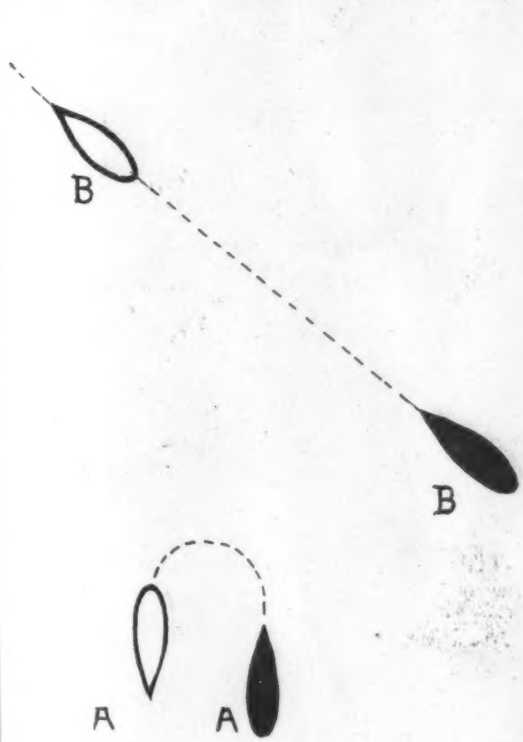


FIG. 3

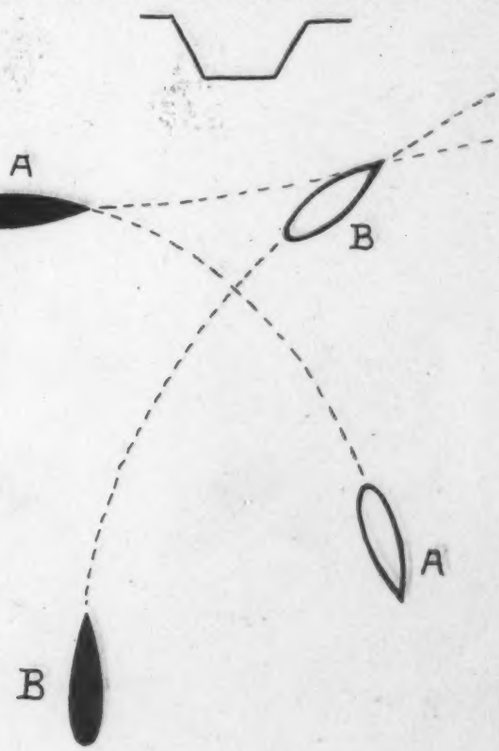


FIG. 4

FIG. 5

to a sailing vessel should, therefore, be accepted as mandatory and as meaning, "Local conditions oblige me to do this—take warning."

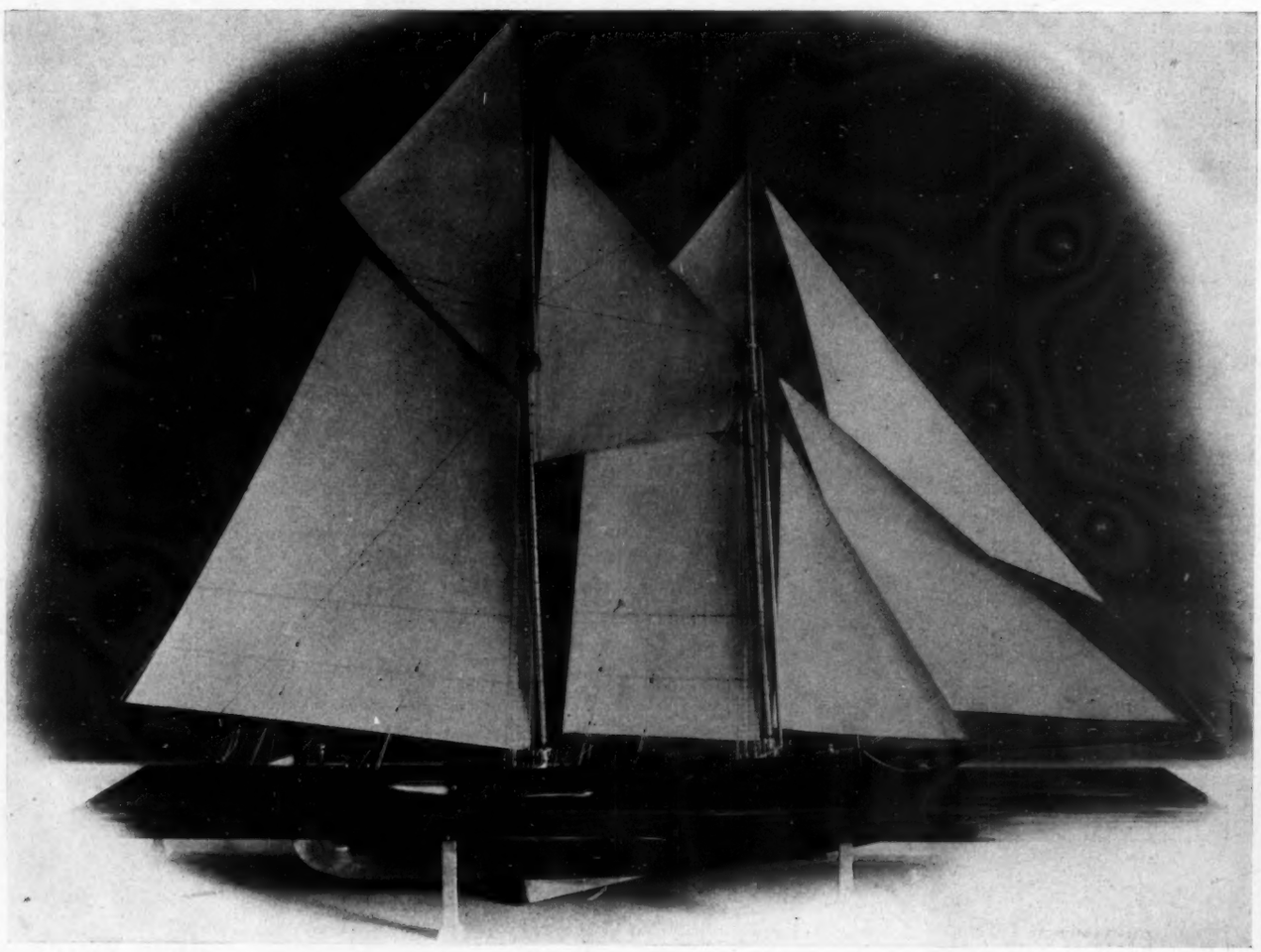
The Inland Rules, having been established by the Congress of the United States, are little subject to change, and once learned are learned forever. Coupled with them, however, is another set of rules termed Pilot Rules, made by the Supervising Inspector of Steam Vessels to meet unforeseen local conditions, such as the regulation of barge traffic, dredging operations, regattas, and such like. These rules are modified rather frequently, and require close study on the part of anyone undertaking to pilot a vessel. Coupled with the foregoing explanations of their practical interpretation afloat, such study should give one rather a fair working knowledge of the art of conning; in fact, should serve to qualify him, if not for a pilot's license, at least to receive the courtesies of the sea, expressed by the short, horse snort of a tug, blown in a close situation, and saying, "I see you belong," as distinguished from silence, or what is sometimes infinitely worse than silence, four short blasts, meaning "What are you trying to do, you lubber, you lobster, you lunkhead?"

The Consolidated Code of Signals for Ocean-Going Tugs and Barges, by means of which tugboat and barge men accomplish with amazing facility all manner of things pertaining to towing, should be posted in every cabin.

It is frequently rather confusing to the amateur sailor to make out whether a tug is trying to give him some rather positive instructions, such as "Your lights are out" (two short, followed by one long blast), or is simply holding a conversation with the barges on its line, by means of the converse signal meaning "Shorten in hawser." On the other hand, almost every one will at some time or other in the course of his nautical career welcome his ability to discharge into a fog-laden atmosphere an intelligent appeal for help such as "Stop tug" or "Come alongside." The very fact of sounding such a call by the conventional code would not only bring a prompt response, but reduce the attendant expense by at least one-half. The Code is therefore given in full, with the more important signals indicated by means of a star.

CONSOLIDATED CODE OF SIGNALS FOR OCEAN-GOING TUGS AND BARGES

Attention	7 short.
Port your helm	1 long.
Starboard your helm	2 long.
Let go hawser	3 long.
All right, go ahead	4 long.
Pumps cannot hold leak	5 long.
Pay out hawser	1 long, 1 short.
Shorten up hawser	1 long, 2 short.
Get under way	1 long, 3 short.
Prepare to anchor	1 long, 4 short.
Get up steam	1 long, 5 short.
Set sail	2 long, 1 short.
Take in sail	2 long, 2 short.
Let go stern barge	2 long, 3 short.
My rudder disabled	2 long, 4 short.
Anchor separately	2 long, 5 short.
*Make fast hawser	1 long, 1 short, 1 long.
Stern barge adrift	1 long, 2 short, 1 long.
*Call for tug	1 long, 3 short, 1 long.
*Let go anchor	2 long, 1 short, 1 long.
Head barge keep up sail	2 long, 2 short, 1 long.
*Hawser has parted	2 long, 3 short, 1 long.
*We are leaking	1 short, 1 long.
*Your lights are out	2 short, 1 long.
*Come alongside	3 short, 1 long.
*Stop tug	4 short, 1 long.
*Signal not understood	5 short, 1 long.
*Engine disabled	1 short, 1 long.
*Danger signals	8 short, and by day flag in rigging, at night 1 red light in rigging.



AN UNUSUAL MODEL OF THE SCHOONER YACHT CONSTELLATION, WITH ALL SAIL SET AND RESTING ON AN ARTIFICIAL WATER SURFACE. A REMARKABLY FINE PIECE OF WORK. MADE BY THE H. E. BOUCHER MANUFACTURING COMPANY

Spindrift's Maiden Voyage

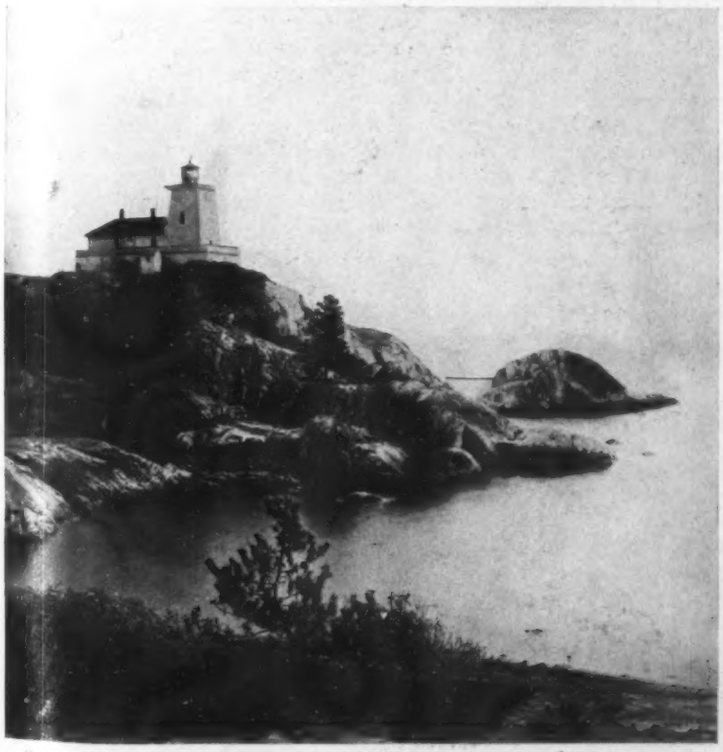
A Midsummer Cruise in British Columbian Waters

By G. B. WARREN

THOUSANDS of points of light pierced the blackness of the night where Vancouver and North Vancouver lifted themselves in long easy slopes from the dark waters of Burrard Inlet, while many yellow wavering threads were reflected across the ripples from the gleaming ports of the vessels lining the docks. From the Royal Vancouver Yacht Club anchorage a yacht stole out on the tide, wafted by the faintest of land airs. Her hull and sails loomed as indistinctly white through the gloom as the wind-driven spray from which she took her name.

Spindrift was bound on her maiden voyage! Her skipper and crew had planned to take in the regatta at Cowichan Bay, Vancouver Island, on July 1st, and afterwards to cruise as the spirit moved them. The night tide suited on June 29th, so with stores and water on board Spindrift slipped her moorings at 11 P. M., and midnight saw her carried swiftly out to sea on the 7-knot ebb by the Narrows.

To describe her, Spindrift is a 30-foot centerboard sloop with nearly 9 feet of beam. A double ender with liberal sheer, her builder enthusiastically declared her "fit to go around the Horn"; a safe claim, since there seemed to be no immediate likelihood of its being put to the test. Her centerboard box is placed considerably further forward than is usual, in order to get the advantage derived from being braced against the beams of the forward deck. This leaves a clear passage across the after end of the cabin, while having the board forward makes it possible to keep the main boom well inboard for ease in reefing. With a low berth on each side of the cabin and a raised floor forward of the mast, where there is a "cave" in which two or three can sleep (and which is regarded as the best berth on board when under way) she realized as nearly as possible her skipper's ideas of a small cruiser.



"POINT ATKINSON'S LIGHT WATCHED OVER THE YACHT AS THE HOURS WENT BY"

"WE TRIMMED OUR SAILS TO A FRESHENING SOUTHEAST BREEZE"

On clearing the Narrows regular watches were set, and I, as skipper, took the first. There were only three of us on board, one of the others signing on as mate, and the third man, Brough, representing the rest of the able seamen, cooks, stewards and stokers. The wind was so light for a time that it hardly gave steerage way to avoid the driftwood which formed in long windrows along the eddies of the tide; but, gradually freshening, a steady easterly flooded through the rigging, molding the canvas in strong sweeping curves as Spindrift held her south'ard course on a broad reach. The unsleeping eye that keeps guard on Spanish Bank, and Point Atkinson's revolving shaft of light, watched over the yacht as the hours went by, and the phosphorescence rushed in an unending trail of star dust along the lee guard.

The mate came on deck and relieved me at 4 A. M., and I gave him the course, as for some time I had been steering by compass, not having been able to pick up any of the lights ahead. Dawn was slowly breaking, the rising flood of light throwing in sharp relief the serrated sky line of a continent—range beyond mountain range running north and south as far as the eye can reach, while sharp and clear cut as steel the dominating cone of Mount Baker raises its lofty snow crest over 11,000 feet, lording it over them all.

I came on deck again at 10 A. M. and found Brough at the stick. He reported that the wind had been gradually lightening. The opening of Active Pass, for which we were heading, could be plainly seen five or six miles ahead, and it looked as if we should get there in plenty of time to catch the all-important tide. A yacht had been slowly overhauling us, and we made her out to be the Wideawake, of Vancouver. Several others, hull down to the westward, were evidently making for Cowichan Gap, another break in the chain of long narrow islands that lie off Vancouver Island. Wideawake passed us during the morning and just saved the tide through the pass.

We were becalmed for a while and met the tide when half way through the pass. In spite of a fresh breeze which sprang up, we could make no headway, so ran in close to shore and

THE DECK OF SPINDRIFT LOOKING AFT

anchored. While we were waiting the auxiliary yawl White Cap and the 18-footer Adanac also arrived. By this time the tide was fairly racing, and foaming along on it came one of the fast Princess steamers, stirring up a wild turmoil of tide rips. The little Adanac got mixed up with the worst of it, and her low black hull was almost lost to sight in the broken water that swept her fore and aft.

This winding pass with its narrow portals and steep, wooded shores was enlivened by the constant passing of steamers, which quite consoled us for the loss of the tide. At 8 P. M. Whitecap started up her engine, and taking Spindrift and Adanac in tow, bucked the last of the flood through into Swanson Channel, where we trimmed our sails to a freshening S.E. breeze. At Satellite Channel, when we should have made a fair wind of the southeaster, it suddenly fluked around to the West and blew harder than ever. Darkness had fallen and we plunged along with decks awash, the wind coming off shore in short angry gusts. About this time Adanac came ripping along without a dinghy. They told us they had dropped it, and though they ran back over their course, were not able to find such a small white speck among the hundreds of woolly wave crests, and had to give it up. Relieved of their tow they soon passed out of sight ahead.

The unfamiliar channels and uncertain loom of the land made navigation rather difficult, especially as a light marking a group of rocks in Satellite Channel, according to our chart, was nowhere visible. (We afterwards learned that it had been removed.) Adanac had the same trouble, and seeing a light far to the southward, mistook it and went considerably out of her way. We were more than surprised about midnight to see her lean low hull appearing out of the blackness under our lee. She was cleaving the seas with a quiet, forceful thrust, and her wave-swept decks gleamed wet in the path of our lights as once more she disappeared ahead after inquiring our position.

However, the race was not to the swift that night, and coming up from my watch below next morning, I made out Adanac becalmed close under the Vancouver Island shore, while we got a light air astern to which we spread a spinnaker and slipped quietly down on the anchored fleet in Cowichan Bay just as the bugle on H. M. S. Algerine sounded for colors and the flags at a score of mastheads broke out as one.

Cowichan Bay is a summer resort patronized largely by residents of Victoria, Duncans and other Vancouver Island points. The bay is a beautiful, sheltered sheet of water for boating and fishing, while the Cowichan River flowing into it is a famed trout and salmon stream.

The programme of aquatic sports was varied; fishing boats, dinghys, ship's cutters from the men of war, sailing yachts and Indian canoes all participated.

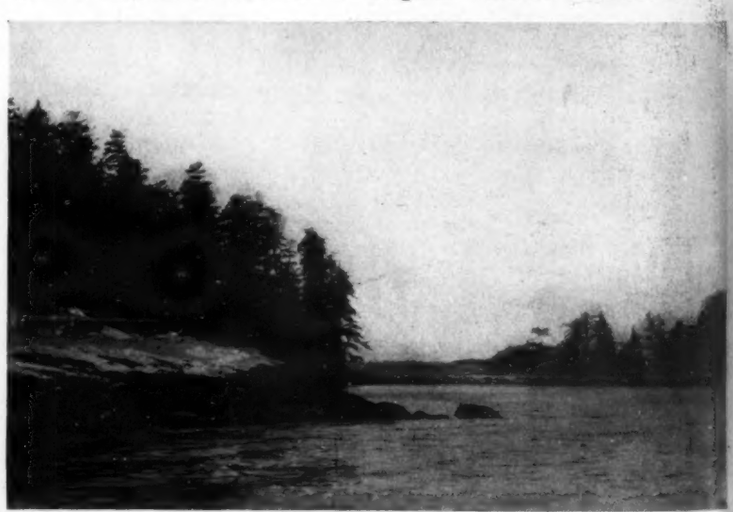
The wind came up fresh during the morning, and a race of Columbia River fishing boats manned by Indians proved exciting. No galling restrictions fettered the noble Red Men, and they got longer spars and added several feet to the leeches of their ordinary sails, besides carrying as much live ballast as they thought conditions warranted. And if they wished to load up with rock to go to windward, and set the crew to heaving it overboard on the run home, there was no one to say them nay. The wind was more than they had bargained for and several of their over-canvassed boats carried away gear and rigging.

That evening we entertained the crew of Adanac. When the hilarious meal was concluded everyone picked out a comfortable spot and dropped off to sleep. The Adanac crew had been up all the previous night, and though watches had been kept on Spindrift the long beat up had been strenuous for the men on deck.

Sunday we had a day of rest and at six in the evening moved over to Burgoyne Bay, in Sansom Narrows to catch the tide. We got under way betimes on Monday and with light and variable winds coasted along the pretty shores of Saltspring Island. Most of the yachts had started for home on Sunday, though Eileen was bound northward on the same errand as we. They came through Sansom Narrows a few miles behind us, and while we headed out for Cowichan Gap, between Valdes and Galiano islands, they were laying a course for Nanaimo when last we saw them.

By dint of carrying every rag we possessed, with the spinnaker pole lashed along the bowsprit and carrying the spinnaker as a balloon jib, we just managed to reach the gap in time to slide through on the last of the ebb. The last few miles had been very interesting as we wended our way among the little islands, tasting of the joys of the early navigators as we re-discovered them for ourselves. Careful attention to the chart was necessary, as the submerged pinnacles were nearly as numerous as the islands.

Once more we were on the wide expanse of the Gulf of Georgia, unhampered by the race of swift tides through rock-bound channels. The wind held steady, though light, from southerly, which was unusual and enabled us to lay our course for Malaspina Strait, sometimes close hauled, and when it would haul further aft, on a broad reach. Regular watches were set and a



AMONG THE NARROW PASSAGES ON THE EAST COAST OF VANCOUVER ISLAND

trolling line put out in the hopes of catching a salmon; however, we only hooked several large dogfish, which, far from putting up a fight, followed up the yacht as quietly as lambs when they found themselves caught. At 11 o'clock next morning we were off Thormanby Island; and as the wind was very light, we all went overboard for a swim. The water was somewhat chilly, but with the warm sun beating down on deck a plunge was pleasantly bracing.

The breeze freshening, we passed the mouth of Pender Harbor at noon, and running on past Jervis Inlet, put into Stillwater, at the mouth of Eagle River, at 3.30 P. M. Here extensive logging operations were being carried on, a short line of railway having been put in to bring the logs down from the Gordon Pascha Lakes to salt water, where they were formed in booms to be towed to the mills. The operation of unloading the trainloads of big fir logs 4 to 6 feet in diameter was rather interesting to watch. A train of a steam locomotive and four flat cars, each loaded with two or three logs (or where the logs were smaller with as many as five) would back out on a long jetty, where the chains and blocks holding the logs would be cast off and each car in succession forced under the arm of a projecting ram which swept the logs off as they passed, the whole train being unloaded in a very few minutes.

Our crew was always hungry, and as Eagle River looked a likely place to catch a mess of trout for supper, the ship's company put off in the dinghy as soon as the sails were furled, and with rods and tackle landed and started to fish the stream. Near the mouth we could only raise small fry, but going a little further upstream we reached some beautiful deep pools in the mouth of a canyon where several big rainbow trout snapped up our tempting flies and put up a good fight when they discovered they had been foully betrayed.

Going ashore in the evening to get some supplies from the camp we ran across a yachting acquaintance, a one-time member of the Adanac's crew. He suggested that we go up to the lakes on the company's train, on which we could take our dinghy. The fishing was reported very good there, so we readily accepted, and at 8 o'clock next morning boarded the train with our faithful dinghy for the four-mile run up to the first lake. The line followed the Eagle River most of the way, the foam-flecked stream boiling through narrow canyons. Further up the line skirted clear deep pools where the trout could be seen in dozens fanning the cool depths. Arriving at the first lake we launched our boat and pulled through a channel between rows of piling, where the logs brought down the lakes were held till ready to ship.

As the first lake was not considered the best to fish in we pulled across it and on through a little winding stream to the next one, where the trout were rising fast in the reeds along the shore. For a time we got frequent rises to our flies; but the fish were not biting well, for we had little success. No doubt if we had arranged to stay over night so as to get the morning and evening fishing we would have caught all we could use, for the men in the camps had any quantity of fish.

A SHELTERED COVE ON SALT SPRING ISLAND

"WE WORKED INTO SNUG COVE"

That night a heavy wind blew up from the southeast, and though sheltered from the full sweep of the wind and sea, a heavy swell and constant squalls swept our anchorage. Next morning we put out on the tail end of the blow, but it left us bobbing about on the old swell till a sudden sou'wester blew up and Spindrift dusted along toward Pender Harbor, doing about eight knots by the chip log and the song the dinghy sings on those auspicious occasions when she sits up on her stern post and sprays the seascape with drift upon drift of foam.

The yawl Uwhilna, on the far side of the strait, close under the Texada Island shore, was ploughing along grandly under all plain sail; but the way the wind was increasing decided us to tuck in a reef. It was needless, however, for a heavy rain started to fall and killed the wind. We slipped into Pender Harbor on the last of it and hunted for a berth near the steamer landing.

As the yacht came abreast of the float the mate hove the lead. Fathom after fathom of line slipped through his fingers till suddenly he clutched at empty air, the whole sounding line having gone overboard. Finally, getting an apology for anchorage close up against the shore, our mud hook was dropped. I found later that there was good anchorage half a mile further up in a bay with a long grassy slope running up from the shore, but wanting a few things from the store at the steamer landing we stayed where we were.

Next morning a dinghy load started out to explore some of the ramifications of this landlocked haven. Steep hills rose from the water in many places and numerous little islands dotted the surface. The majority on Spindrift voted for trout, so we hunted up a small stream at the head of the harbor, where a nice string of lively brook trout of seven to ten inches was the result of our labors. At its mouth the creek flowed in a tortuous channel

through an extensive meadow of tall sedge grass. The dinghy was able to follow up its windings, to the consternation of a saw-bill duck and her well grown brood, which scuttled along ahead. The old bird, very much peeved at our intrusion, swam around scolding and keeping a weather eye on the ducklings, who were making a successful getaway through the tall grass.

Serious thoughts of making a start at last began to intrude themselves, as we were due at Bowen Island, forty miles away, next afternoon, and the westering sun gave warning of the rapid flight of day; so all hands returned to the yacht, and amid many predictions, ranging all the way from a dead calm to a gale, we left the local weather prophets to find some one who had more faith in them than we, and proceeded to sea. Just before we left several motor boats and the sloop Kelpie, flying the R. V. Y. C. burgee, came in and dropped anchor.

Spindrift cleared the islands at 6 o'clock and, setting the spinnaker to catch a nice little westerly, we coasted down toward Buccaneer Bay, intending to put in there for the night. The wind kept freshening gradually and a gay little feather of spray graced our cutwater till it looked like tempting Providence to go into Buccaneer Bay with such a favorable wind coming up, and we let her drive on through Welcome Pass. Supper was gotten under way while in the smooth water of the lee of Thormanby Island, but even when we began to feel the scend of the sea again, so easy was her motion—racing for a moment on a crest, then dropping slowly into the green deep valley—that the cooking went on uninterrupted on our little two-hole wood stove.

At dark it was breezing up very fresh and we took in the spinnaker, as the boom was misbehaving and the sail showed a tendency to kite over the masthead. Spindrift was now doing nine knots past the land with very little, if any, tide to help. A faint starlight glimmered over the waste of dark tumbling seas, while here and there an eager wave tripped and smothered itself in a snowdrift of foam. The wind was dead aft, and with nothing to counterbalance the big mainsail it became increasingly difficult to hold her before it, when at 11 P. M., the most southerly point of Bowen Island being abeam, we rounded up into the wind to avoid a jibe and shot past Cowan's Point into an almost dead calm under the high hills of the island.

In a few minutes it puffed up from an easterly direction and we worked into Snug Cove, the objective point of many a week-end cruise, especially before the advent of the gasolene engine gave the yachts a wider cruising radius.

THE ROYAL VANCOUVER YACHT CLUB ANCHORAGE

A quiet night was spent at anchor and at 11 o'clock next morning Spindrift was headed for home before a light westerly. Rounding Point Atkinson, Adanac and several other yachts were seen heading for Skunk Cove, so we followed them in and had lunch and a pleasant visit on shore. This little cove, too small to be invaded by tugs with their unwieldy booms of logs, is always ready to welcome the yachtsman, and being within such easy reach (about 7 miles) of Vancouver, a holiday finds it the objective of many wind-driven keel and motor craft.

At three in the afternoon, in company with Adanac, we ran for Vancouver. A seemingly endless stream of low-lying power craft were homeward bound, and their throbbing pulse beats trembled on the air, while scattered among them were the graceful spars and wide-spreading wings of not a few windjammers. One by one they passed the entrance to Vancouver's harbor, where at the foot of Prospect Point rest the historic bones of the Beaver, which crossed the Atlantic in 1835 and was the first steamer on the Pacific. Brought out under a bark rig and later altered to a steamer her weed wrapped relics can thrill to the call which draws the windjammer and the power boat sailor alike.

The Legend of Gay Head

ALONG the entire coast of New England there is no more picturesque spot than Gay Head, the westerly point of Martha's Vineyard. There the banks of many colored clays rise abruptly from the sandy beach to a high bluff, topped off in summer with a fringe of low, green bushes which serve to bring out the vivid reds, browns, yellows and blue-grays which are mingled in streaks across the face of the headland. When the rays of the setting sun strike directly on this show of color, lighting it up, the sight is one long to be remembered.

In the low land back of the Head there still live a number of Indians, the descendants of the original tribe, who still make a living by fishing. From one of these I learned the legend of Gay Head. As it will undoubtedly interest those whose summer cruising takes them by this impressive corner of the Vineyard, I will repeat it just as I heard it.

Before the white man came to disturb the quiet of the place, there was a chief of mighty prowess in the tribe, by name Moshup, who was far and away the leader in feats of strength. Life was at that time simple for Moshup, because he lived in a cave in the cliff (which is shown to this day) formerly called "Devil's Hole," but this name, being a little strong for mealy-mouthed tourists, was changed by them to "Satan's Ravine." When Moshup needed food this was easy, too, because he would wade in among the schools of whales which continually played about the Head, and seizing one by the tail, would drag it ashore, and so there was always food in plenty for all who wished it.

But things became changed, for soon the white men came, and they, too, took an interest in whales and chased them with spears, in boats, and made them very shy, so that they no longer came near the beach as before. And so, instead of seizing them, Moshup was obliged to cast great boulders at them, and these in great numbers may yet be seen at low tide, and form a reef now known as Devil's Bridge, where many a vessel has struck.

And times grew worse, because the white men, instead of going away to chase whales in other places, still kept on, and even came and landed on the beach. This angered Moshup so much that, filling his largest pipe, he retired to a submarine cave to smoke and think it over. After several days he was seen to rise out of the water and standing on the bottom, shake the ashes violently from his pipe. These floated out on the ebb tide and, sinking finally, became Nantucket and the shoals belonging thereto.

Dropping back into the cave again Moshup was seen no more, but he still smokes and ponders on the white man's coming, because when the weather is stormy and the spray flying, mingled with it may often be seen the smoke from his mighty pipe. And who can say when, having finished his meditations, he may look up again?

DANIEL BACON.

How to Build a Cheap and Speedy Single-Step Hydroplane

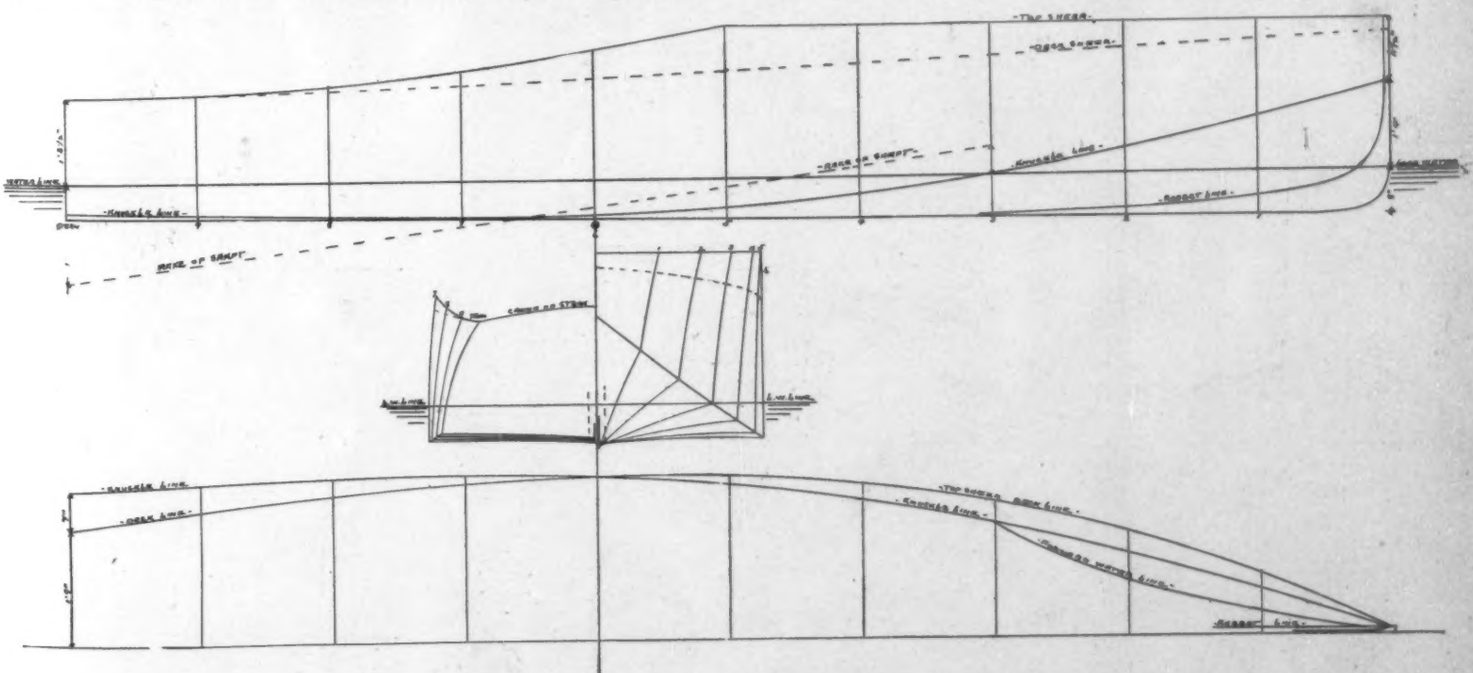
By JOHN A. CONNOLLY, Jr.

Plans by the Author

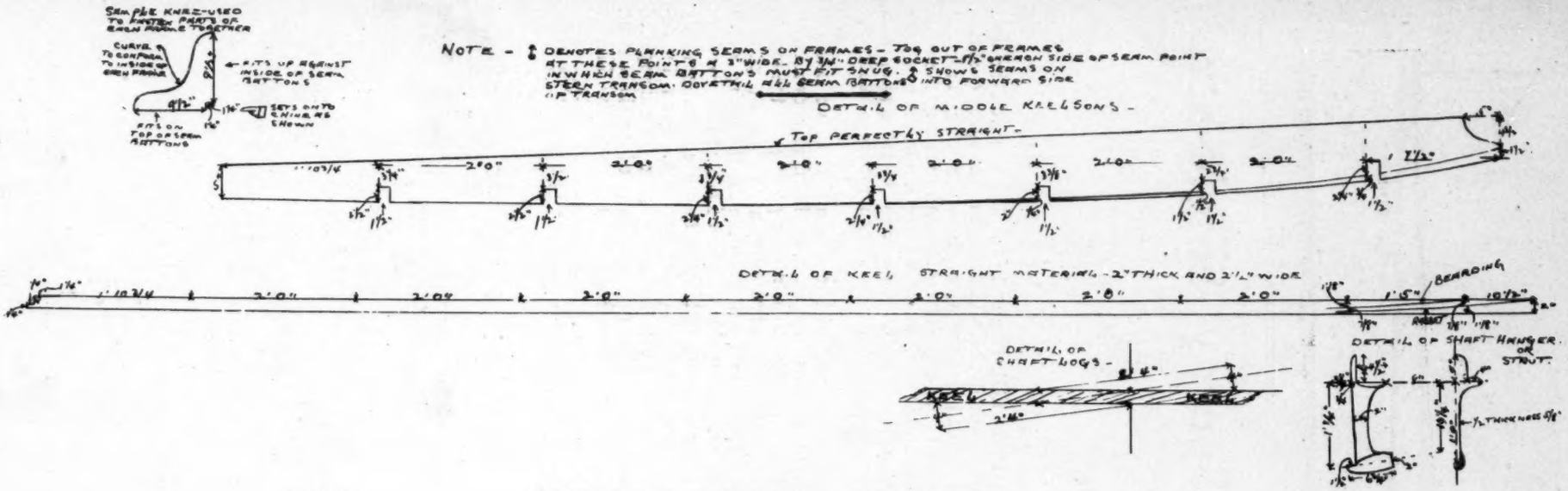
BY far the most popular type of speed boat to-day, and one that appeals very strongly to motor boat enthusiasts by reason of the speed at which it can be driven with comparatively low power and its apparent simplicity of construction, is the hydroplane. And now that the active boating season is over and the "bugs" are beginning to lay their plans for another year, I have designed this little 20-foot hydroplane runabout with full detailed construction, plans and directions for building, so that those who are handy with tools and want to put in their spare time during the winter tinkering around a boat, can have the fun of building her themselves. The construction of this boat will be found extremely simple, and as the dimensions of all the necessary parts are given in the detailed drawings, she should prove within the ability of any amateur to build.

The type chosen is what is called the single-step hydroplane. The shape given the bottom of the hull produces the best speed results, the frames being concave, beginning at the stern and being carried forward to about amidships, when they take a quick turn upward, ending at the bow, the concave principle being carried throughout the whole hull, fore and aft. I have given the boat a beam of 5 feet, feeling that it will not injure her speed qualities, as I am of the opinion that the wider these boats are, consistent with their length over all and corresponding in ratio to the draft necessary to float hull at rest, the more speed can be attained with greater seaworthiness and stability, allowing the installation of a larger and more powerful motor than if they were of narrower beam.

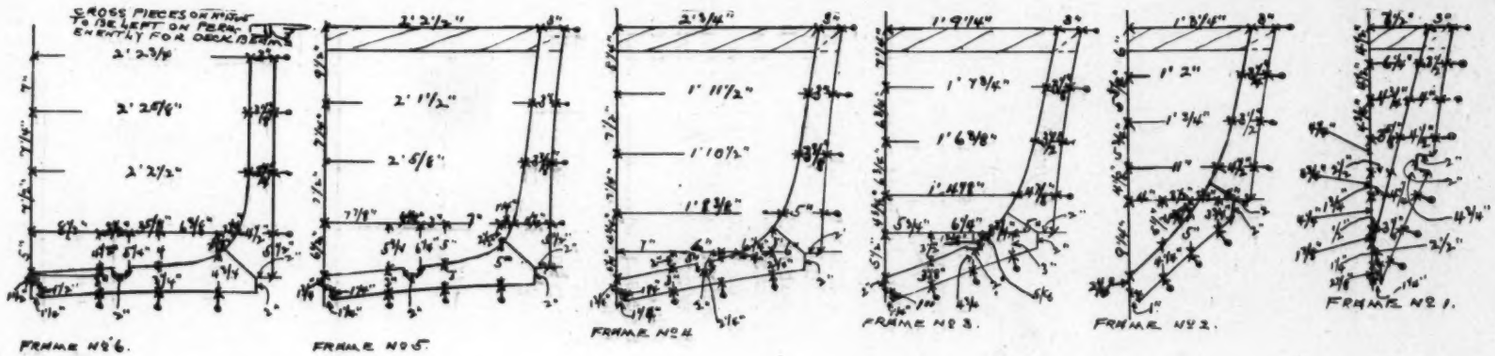
I feel that it is not essential in this article to go into the details of the laying down of the lines, as the plans shown cover everything fully, and all measurements for getting out the molds, frames, stem, keel and other parts necessary to build a perfect boat are given. Therefore I will not describe the laying down process, advising the prospective builder of a boat like Flash to study the plans carefully and follow the measurements correctly as shown on the detail sheet appearing herewith. From the detailed cost of the various items that go to make up a completed hull, it will be seen that the material, exclusive of the shaft strut, can be purchased for less than $90 and the prospective builder

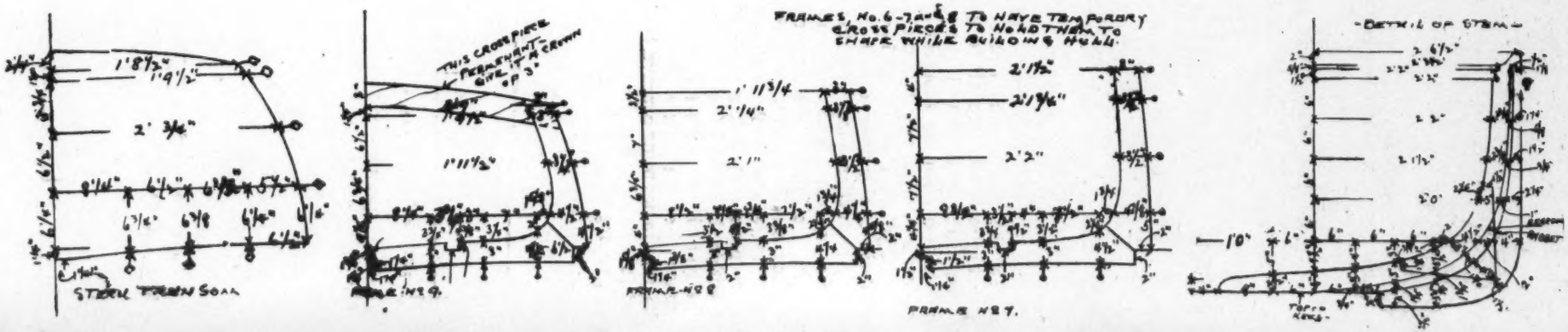


LINES OF THE 20-FOOT SINGLE STEP HYDROPLANE


SIMPLE KNEE USED TO FASTEN PARTS OF BEAM MOULD TOGETHER
CURVE TO CONFORM TO INSIDE OF BEAM MOULD
FITS UP AGAINST INSIDE OF SEAM BATTONS
FITS ON TOP OF SEAM BATTONS
SETS ONTO CHINE AS SHOWN
NOTE - ‡ DENOTES PLANKING SEAMS ON FRAMES - TOG OUT OF FRAMES AT THESE POINTS A 3" WIDE - BY 1/4" DEEP SOCKET - 1/2" EACH SIDE OF SEAM POINT IN WHICH SEAM BATTONS MUST FIT SNUG. ‡ SHOWS SEAMS ON STERN TRANSOM. COVER ALL SEAM BATTONS INTO FORWARD SIDE OF TRANSOM
DETAIL OF MIDDLE KEELSONS -
TOP PERFECTLY STRAIGHT -
DETAIL OF KEEL STRAIGHT MATERIAL - 2" THICK AND 2 1/2" WIDE
BEARDING
DETAIL OF SHAFT LOGS -
KEEL
DETAIL OF SHAFT HANGER OR STRUT
1/4 THICKNESS OF

DETAILS OF KEEL, MIDDLE KEELSONS, SHAFT LOG AND STRUT



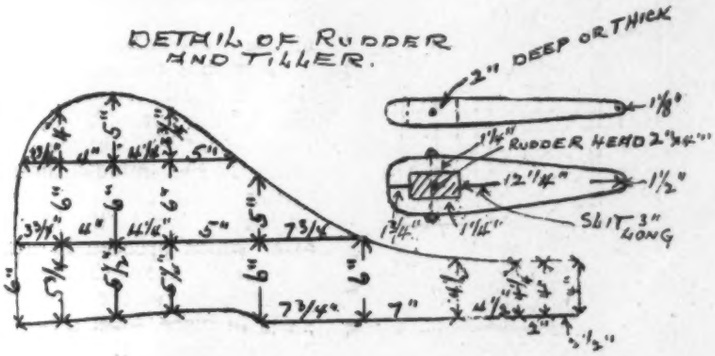

STERN TRANSOM
THIS CROSS PIECE TEMPORARY GIVE IT A CROWN OF 3"
FRAME No 9.
FRAMES, No. 6-7-8 TO HAVE TEMPORARY CROSS PIECES TO HOLD THEM TO SHAPE WHILE BUILDING HULL
FRAME No 8
FRAME No 7.
DETAIL OF STEM
TOP OF KEEL

DETAIL PLAN OF FRAMES, STEM AND STERN TRANSOMS

will find that this amount will fully cover the entire outlay for the construction of the boat, exclusive, of course, of the engine, fittings and accessories necessary to produce the completed boat. The hull itself, if contracted out to a builder, should not cost more than from $225 to $275, depending on the finish of the hull and the grade of material used.

In the plans no special size engine has been shown, the choice being left entirely to the owner, and is governed largely by the amount of money he can afford to expend on this unit. It would be advisable, in view of the fact that a hydroplane develops speed according to the power used, to install not less than a 15 H. P. 2-cylinder light-weight motor of high-speed type. It is understood, of course, that the larger the power, the greater the speed, but even with a 15 H. P. engine installed as described, a speed of at least 18 or 20 miles per hour should be obtained.

By studying the construction and set-up plans, it will be seen that the form of construction will be fully strong enough and give a very rigid hull that will stand the weight of the power installed. This rigidity is assured by the two middle keelsons shown in the plans, which set out from the keel on each side 12 inches. This also simplifies the construction, and in conjunction with the cross frames adds materially to the strength of the hull and will offset any undue strain put upon it by the installation of large power. The hull proper has a flat deck forward for a distance of 10 feet aft from the stem, at the end of which is placed a ¾-inch water tight bulkhead. Just forward of this bulkhead will be installed the engine. Over the engine is placed



a very simple sliding hatch 2 feet 9 inches long and 2 feet 4 inches wide. To the bulkhead are to be attached an auto steerer, engine control, etc. The after end of the hull is also decked over from frame No. 9 to the stern transom, this deck having a crown of 3 inches in 4 feet. At frame No. 9 is placed another ¾-inch water tight bulkhead, this bulkhead inclosing the space in which will be installed the gasolene tank, which may be either cylindrical or square, cylindrical being preferred, the tank being 12 inches in diameter and at least 3 feet in length, and being installed as close up against the crown deck as is posssible to insure a good flow of gasolene when the boat is planing. It would be advisable, where high speed will be the main incentive, to install on the forward side of the forward bulkhead a reservoir tank which will insure a good gasolene supply when the boat is developing top speed.

The dimensions of the hull are as follows: Length over all, 20 feet; length of water line, 19 feet 11½ inches; extreme beam, 5 feet; hull at rest at stem, 8 inches; at stern, 6 inches. The bottom of hull between these two last points of measurement is perfectly straight.

Material necessary to build hull, with maximum cost:

Stem, material spruce, 2½ inches thick	$1.50
Keel proper, oak, 2½ inches wide by 2 inches thick by 18 feet 3 inches long	.75
Middle keelsons (2), spruce, 32 feet by 10 inches by 2 inches thick	4.00
Shaft logs, oak, 3 feet by 4 inches by 3 inches	.25
Stern transom, oak or spruce, 4 feet 8 inches by 2 feet by 1¼ inches	.75
Seam battens, spruce (12), 250 feet by 3 inches by ¾ inch	7.50
Chine pieces (2), 42 feet by 2 inches by 2 inches	.75
Frames, spruce, 75 feet by 6 inches by 1½ inches	3.50
Deck beams, spruce, 45 feet by 3 inches by 1½ inches	.75
Decking, cedar, 136 feet by 3 inches by ⅝ inch (tongued and grooved)	2.50
Plank sheers, cedar, 42 feet by 5 inches by ⅝ inch	2.00
Moldings, oak, half round, 70 feet by 1¼ inches	1.50
Flooring on cockpit, spruce, tongued and grooved, 65 feet by 6 inches by ¾ inch	2.75
Side planking, cedar, 192 feet by 10 inches by ⅝ inch	10.00
Bottom planking, cedar, 192 feet by 10 inches by ⅝ inch	10.00
Bulkheads, spruce, 50 feet by 6 inches by ¾ inch, tongued and grooved	2.50
Spruce knees (18)	2.00
Studding for setting up hull, spruce, 96 feet by 2 inches by 4 inches	2.00
Rudder material, locust, 5 feet by 6 inches by 2 inches; yellow pine, 2 feet 3 inches by 6 feet by 2 inches; spruce, 1 foot 6 inches by 6 inches by 2 inches	.75
Cost of fastenings, painting, etc.	15.00
Extras, etc.	15.00
Total	$85.75

LAYING OUT BUILDING MATERIAL

In order to lay out all necessary material with which to build the boat, it is advisable to use heavy Manila or building paper, the requisite amount being 18 yards in length and not less than 3 feet in width. It will be best to stretch this paper out full length on a good smooth floor, if you can procure a floor to take in the full length of the paper; but if this cannot be done, try to get a floor at least 25 feet long, as it is best to lay out the middle keelsons and the keel proper on this paper rather than on the material itself. If sufficient room cannot be procured for doing this you can forego laying out the parts mentioned on the paper, using the material itself; but it is advisable to use the building paper in laying out the several parts of the frames, the stem and the stern transom. After the several parts are laid out on this paper, you can then cut them out to the shapes the measurements give you and use them for getting out parts necessary to build the boat.

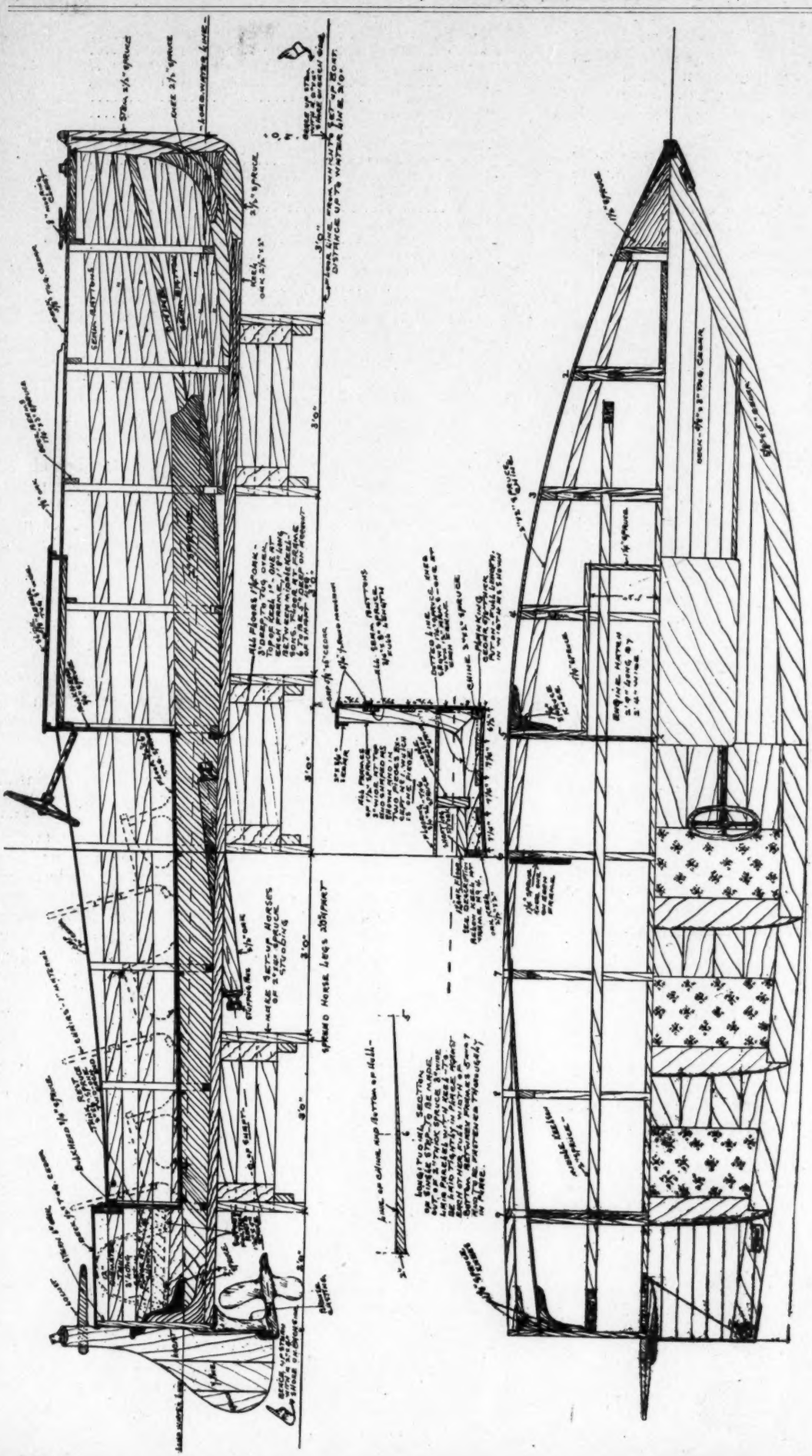
For instructions for laying out the shape of the stem inside and out and the bearding and rabbet lines for working out the planking rabbet in stem, see detail sheet on page 234. This plan will give the exact shape and measurements of the stem (which is comprised of three parts as shown), middle keelsons, keel proper, all the frames, stern transom, rudder and tiller, shaft log, and the style of knee to be used in fastening together the parts that go to form each frame. By studying the detail sheet thoroughly it can be seen how the middle keelsons are jogged out at the respective frame points to fit over and down into the jogs as shown on each frame as laid out. The location of the position of the chine pieces in the frames is also shown on this detail sheet, and by following the measurements and studying the plan carefully no mistakes will be made that will prevent all parts being laid out correctly.

The bottom edge of the middle keelsons, when fitted in place at the respective frames, should finish flush with the bottom of each frame, this being absolutely essential, as the inside face of the bottom planking must fit snugly against these middle keelsons and the bottoms of the frames to insure a tight job.

When you have all these different parts marked out on the necessary material, you can proceed to work them out prior to setting boat up. The method of setting the boat up is shown very clearly in the construction and set-up plans.

It is taken for granted that you have selected your place for building. This had best be under cover. If you cannot procure a suitable place indoors, then you can build the boat outdoors, purchasing an old tent or any old canvas material and erecting it over the spot selected on which to build. This will protect your boat from the weather and will also insure working on rainy days.

Erect in place the setting-up horses according to measurements given in the construction and set-up plans, being sure that they are plumb and at the respective distances apart. Use a 2-foot



CONSTRUCTION AND SET-UP PLANS

water level for this purpose, setting it across the horse to make sure that the top edge of each horse is level. To level the horses up fore and aft you can use a chalk line, it being advisable to erect first the two end horses, and after your chalk line is in place insert in place the middle horse. From the forward side of the front horse to the after side of the rear horse the top edges of these three horses should show a perfectly straight line, as the bottom of the hull of this boat is perfectly straight from end to end. The set-up plan shows that the legs of these horses should have a spread of at least two feet. Upon the top of these horses set in place the keel proper. Before doing this, however, fasten thereon in place the stem and the stern transom. The stern transom is fastened to the keel proper by means of a 2-inch spruce knee, as shown on the construction plan.

Regulate the exact position of the keel on the top edge of the horses by placing frame point No. 6 at the after end of the middle horse. Fasten it correctly and thoroughly in place to the horses, after which proceed to erect in place the rest of the frames. After you have these several parts in place, level them all up and shore up the stem and the stern transom plumb with the 2-inch by 4-inch studding you have bought. To level up frames it is best to run a chalk line from the top of the stem to the top of the center of the stern transom, using the chalk line for this purpose. Stretch line very taut, making sure that it is exactly over the center of the stem head and the stern transom. These frames can be held in place by a thin batten temporarily run from the top of stem to top of stern transom on each side, and fastened to each frame with galvanized nails.

When the respective frames are leveled up correctly, shore up from the floor or ground to the bottom piece of frames Nos. 2, 4, 6 and 8. This shoring is necessary to hold boat in true form during construction. If this is not done, all the labor expended in "trueing" her up will be for naught. The boat cannot be

built properly unless this shoring is done thoroughly and well.

The next step is to insert in place the middle keelsons. They should be fitted in the respective jogs cut out in the top side of the lower piece of frames Nos. 2, 3, 4, 5, 6, 7 and 8, the bottom edge of the middle keelsons coming flush with the bottom face of the lower piece of these frames and the butt ends fitting flush against the forward side of the stern transom, where they are thoroughly fastened by 2-inch spruce knees, as shown in the construction plan. In putting together frames Nos. 1, 2, 3, 4 and 5 do not forget to fasten in place at the top of each the deck beam shown on the construction plan, these deck beams being perfectly straight on top. On these beams is to be laid the forward deck. At the top of frame No. 9 insert in place the deck beam as called for in the construction plan, this deck beam having a crown of 3 inches in its width.

The boat is now set up ready to proceed with the planking. Before doing so, however, it would be best to work the shaft logs in place, having previously bored the shaft hole in each. These shaft logs could be made of two pieces 1½ inches thick, which would insure the shaft hole being cut out correctly, as the hole could be worked out through the center of each, after which they could be fastened together. In this way you would avoid any chance of not getting the shaft hole bored correctly. It would be advisable, before placing frame No. 6 in place in the setting up process, to set the inside shaft log in place and the outside one could be put on afterwards; or, if you wish to eliminate this, use an outside bronze stuffing box casting to take its place. (The shaft log has been drawn in the plans on account of its cheapness.)

Before starting the planking, put in place on the upper parts of each frame the seam battens, starting with the top one. There are three on each side, shown on the construction plan. Next insert your chine pieces. Work these chine pieces in place, fitting them snugly into the stem and flush against the forward side of the stern transom, it being understood that their outer and lower faces come flush with the side and bottom face of frames and transom. Next put in place the seam battens, three in number, in the bottom frame parts. Fasten these all in place thoroughly with 2½-inch galvanized boat nails at each frame, counter-sinking the heads. Let all seam battens into the stem and dovetail the after ends into the sides and bottom of stern transom ¾ of an inch. You are now ready to proceed with the planking.

You must bear in mind that the planking seams meet in the middle of the seam battens and the respective widths of the planking is shown on each frame on the detail sheet. The seam battens are 3 inches in width, to allow for getting these plank seams fair. Try and see that the edge of all these seams run as near the middle of the seam battens as possible. First work out the top strake. For this purpose it is best to use what is commonly known as a spiling board, which can be made of 3/16-inch material not less than 4 inches wide and about 21 feet long. Take the spiling board and lay flat against the sides of frame in line with the bottom of the upper seam batten, fore and aft, putting it in place temporarily, and being sure that you do not force it out of the true sweep which it is bound to take. Now go forward to your stem and get the shape of the forward end of the upper strake of planking with the aid of a bevel. This bevel can be purchased at a reasonable price at any hardware store, being a piece of metal 1 inch wide and 8 inches or 10 inches long, inserted in a wooden handle, the blade being worked forward and backward, as is necessary. After you have the shape of the top strake as it should fit into the rabbet in the stem, mark it on the spiling board at this point.

Next take a pair of compasses, open up the points to a distance of at least 4 inches, prick one point into the center of the seam batten where it fits into the stem, and force the other point into the spiling board. Next go to frame No. 2 and prick one point into the center of the seam batten at this frame and force the other point into the spiling board. Follow this process from frame to frame until you reach the stern transom. This being done, remove your spiling board and place it along the lower side of the piece of plank you are to use for your top strake. This piece of plank is to be at least 10 inches wide. Mark on the end which is to be fastened to the stem the bevel of the stem and then take your compass, which you have not changed, and placing one point into the prick in your spiling, force the other point into the piece of material. This will give the point of the lower edge of this top strake where it fits into the stem. Pass along to frame No. 1 and do likewise, following this process at each frame until you reach the stern. These prick marks at their respective points represent the bottom edge of your top strake.

Take a long batten about 1½ inches wide and ½ inch thick and at least 21 feet long, place it along these prick marks and draw a line along the plank, using the batten as a ruler. This being done, saw plank out to this line. Then take this plank and fasten it temporarily in place, making sure that the sawed out seam runs evenly through the middle of the top seam batten. Tack in place with 1½-inch wire nails, after which mark out the shape of its upper edge from stem to frame No. 5. To get the shape of this top strake from frame No. 5 to stern, mark off on its inner side the points where it comes in contact with the top edges of frames Nos. 6, 7, 8 and 9 and the stern transom. This being done, remove from the hull, take a small batten and run in the shape to marks shown. You can saw out the plank, and taking another plank of the same width cut out a duplicate for the other side. Plane the top and bottom edges of this strake and insert again in place on hull, after which it will be ready to be fastened to the stem, frames and stern transom permanently. Follow this method of getting out your plank for the balance of the planking, making sure that all the planks meet in the middle of all seam battens. It is best after putting this top strake in place to put on next the outer bottom plank. This is necessary, as the lower edge of the lower side plank on each side finishes flush with the outside face of this bottom plank. As the planking is a very important feature of every boat, it is usually best, to insure a good job, to hire a competent man to do this work, but it is interesting work for the amateur if he prefers to do it himself, and in a boat of this type is not very difficult.

Fasten all planking to the respective frames with 2½-inch boat nails, at least three to each plank at each frame, fastening the planking to the stem and the stern transom with brass or galvanized screws. For those who prefer it, the plank can also be fastened to the frames with screws, which makes a very good job but costs more and calls for more labor than if nail-fastened.

The bottom shoring can be removed as the bottom planking progresses. It is best to shore the boat along the sides from the top strake down if this is done, to keep it from working out of shape. You can now proceed to put on the deck, first putting in place the plank sheer, which is 5 inches wide, and, if possible, should be in one piece, steaming the plank, if necessary, to fit the deck line. Previous to putting on these plank sheers, it is best to work in place the forward bulkheads, the top of which finishes flush with the top of deck beams. At the sliding hatch it is carried up between sides of the slides to a height necessary to meet the under side of hatch, when it is drawn shut. The deck between the plank sheers is to be of 3-inch wide tongue and grooved cedar, to be laid parallel with center line of boat, fore and aft.

The deck is to finish flush with the inside faces of the hatch, as shown in the construction plan. When this deck is laid, put in place the side slides and the cross piece at the forward end of the hatch opening. Make hatch conform with measurements in the construction set-up plan.

It is advisable before putting on this forward deck to decide on the size of the motor to be used and the engine bed can be worked out while there is room to do it properly. As I do not show any particular size engine for this hull, I have not drawn in the plans any engine bed. This has been left to the prospective builder, and after he has decided on the power he can work in the necessary engine bed between the two middle keelsons, making sure that he has two strong crosspieces at least 3 inches thick and 5 inches deep, to be jogged and fitted thoroughly into place between the middle keelsons. The necessary fore and aft pieces

should be at least 2½ inches thick and 5 inches deep, being dovetailed into these two crosspieces. No especial form of engine bed is recommended, it being left to the judgment of the builder to put in the proper one to carry his engine.

Next lay the cockpit floor, which runs full width across the boat on floor timbers jogged into the middle keelsons, the bottom of cockpit floor fitting on top of these keelsons.

Before putting on the after deck, work in place the necessary fore and aft support pieces, two in number, to carry the tank, and use style of iron straps as shown to hold tank in place.

The after deck can be put on next and also the after bulkhead, champering off the forward top edge of this bulkhead as shown in the plans. Against this bulkhead is to fit the after cockpit chair seat as shown.

The hull is now practically completed except for the single step plane on each side. The size, shape and method of putting these planes on are shown on the construction and set-up plans. They begin at frame No. 5 and run to frame No. 7 and are 4 feet long, beginning at nothing forward and running to 2 inches deep at the after end. The kind of planes shown is recommended on account of the cheapness. Those who prefer to use a metal plane can do so to good advantage. Before putting these planes in place, it is best to sandpaper the hull down thoroughly, give it one coat of a good white lead paint, putty all countersunk holes, and caulk all seams with one strand of cotton. It is also best before starting to plank the hull to fasten in place, along the center of each seam batten and chine pieces, a piece of flannel at least 2 inches wide laid in paint, and when the plank is fitted in place the cotton in the seams should make the hull practically water tight. It is also a good idea before assembling the parts, such as the stem, frames, stern transom, etc., to give them all a coat of gray paint, as painting preserves the wood and lengthens the life of the material.

After the hull is thoroughly sandpapered, given one coat of paint, and the seams caulked as previously mentioned, it is best to apply another coat of white lead paint over the entire hull. It would be well to paint the interior of hull also, using gray paint for this purpose. This done, the planes can be put on, being sure that each piece as it is put in place is forced tightly against the other. These pieces can be screw-fastened on bottom of hull, which will allow them to be removed readily if desired.

After the planes are in place, they can be given a coat of good white lead paint. After this first coat of paint is thoroughly dry it is well to thoroughly go over the hull with No. 1 sandpaper to get it as smooth as possible for the second coat. It is best to apply three coats of paint, the last coat to suit the owner's taste, the deck being finished bright. The bottom of the boat below the water line should, of course, be painted with a good anti-fouling paint. While the paint and varnish are drying on the hull, the rudder and tiller can be made to the dimensions given in the detail sheet. For those who would prefer it, a metal rudder and quadrant could be substituted, the wooden rudder and tiller being used on account of the smaller cost.

The hull is now practically completed and ready for installation of engine and accessories. As before mentioned, the engine is to be fitted in between the middle keelsons. This method of using these middle keelsons allows ample room to install properly any size engine the owner may desire. The strut to hold shaft on outside of hull can be made as shown on detail sheet on page 234.

A word or two in reference to the speed of Flash. She is a single step hydroplane, and I have made the construction of this step very simple. Without this step she will be a very fast boat, but the step will raise her up and cause her to plane much faster than without it. It is a well-known fact that the more power there is behind a boat the greater is the speed obtained. If you install at least 65 H.P. great results can be looked for. It would not be advisable to install an engine developing less than 15 to 18 H.P. if good speed results are looked for. Remember that a tax on power is a tax on speed, so if you are looking for speed let its limit be the sky and install as large power as your purse can afford.

Herr Diesel's Engine

A Comprehensive Description of the Diesel Heavy Oil Engine, What It Has Done and What May Be Expected of It

By PETER JENNESS

ON a certain morning in March, 1911, between 5:30 and 6 o'clock, I was standing at a window overlooking lower New York Bay, a pair of nine-power binoculars in my hand, when a full-rigged ship appeared, coming up the Ambrose Channel apparently under power, with men on the yards furling sail and no tug to be seen. All sailing vessels that I had observed before had taken the Main, or Swash Channels, according to the wind.

The sight of a big sailing ship coming up this channel reserved for the big "liners," and without apparent power to propel her, made me wonder if the Flying Dutchman was at last making port. Then I read in the papers next day that she was the Quevilly, from Rouen to New York, with Diesel engines as auxiliary power, the first sailing ship so equipped to cross the Atlantic.

The first Diesel engine was built in 1893, and in a recent lecture Dr. Diesel said of it: "This engine never succeeded in running, not even one revolution, as at the first injection of fuel there occurred a terrible explosion and the indicator went into pieces, nearly killing me. But I knew then just what I wanted to know—it was proved possible to compress pure air so high that the fuel injected into it ignited and burned."

As the Beau de Rochas, or more familiarly known Otto engine, is superior in efficiency to the steam engine, so is the Diesel system again superior in thermal efficiency to the Otto. The increase in both cases is due to the more direct application of the fuel.

The compression in the Otto engine is limited to about 90 or a hundred pounds, as the fuel gas is itself compressed in this case and spontaneous combustion takes place with higher pressures. In the Diesel system the fuel oil is not introduced into the cylinder until near the beginning of the working or expansion stroke, when the heat due to the excessively high compression of air in the cylinder ignites the oil and the piston is forced down at constant pressure until the oil is cut off, or partly cut off.

These engines are usually started by compressed air. The oil injection valve is put out of action during the starting process, a valve connected with the compressed air source being put in motion. The engine then runs as a compressed air engine until well started, when the oil valve is cut in, and at the same time the compressed air is turned off and the engine takes up its regular working cycle.

The compressed air valve is a two-way one, and delivers air during the down stroke of the piston. Then it closes off the air and opens the cylinder to the atmosphere, thus relieving compression during the up-stroke.

The air valve for a four-stroke multicylinder engine need not relieve the compression, and the fuel oil valve is not necessarily cut out, the compressed air being delivered to a unit on the expansion stroke and compressing the air in another cylinder on its compression stroke. The latter cylinder is ready to ignite the fuel oil at the time it is injected and start the engine.

The four-stroke Diesel engine has a suction, compression, ex-

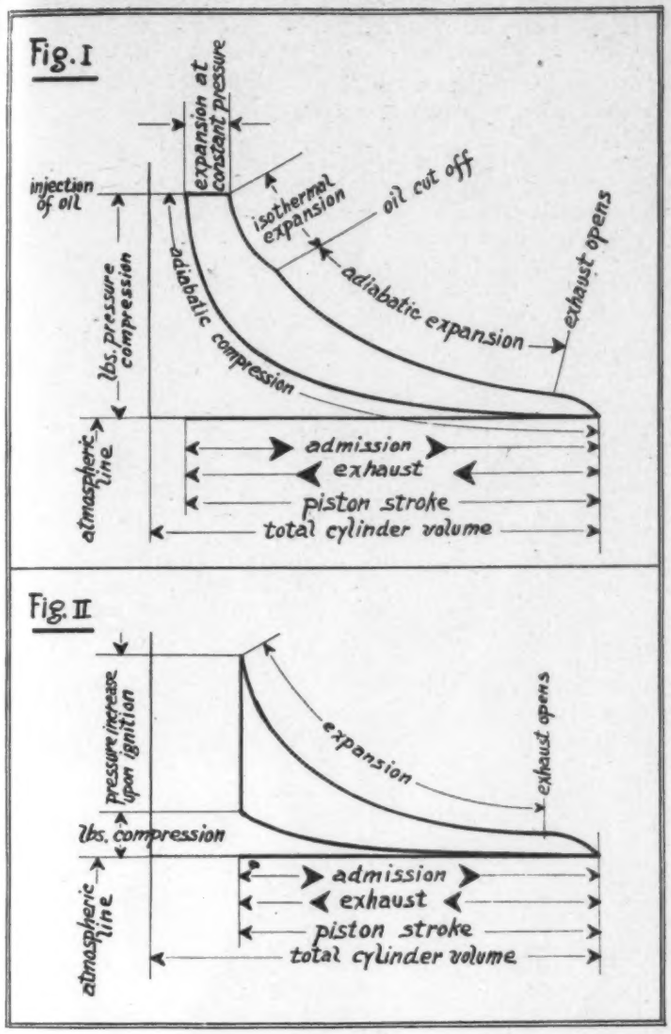


FIG. I.—INDICATOR DIAGRAM OF DIESEL ENGINE

FIG. II.—INDICATOR DIAGRAM OF OTTO-CYCLE ENGINE

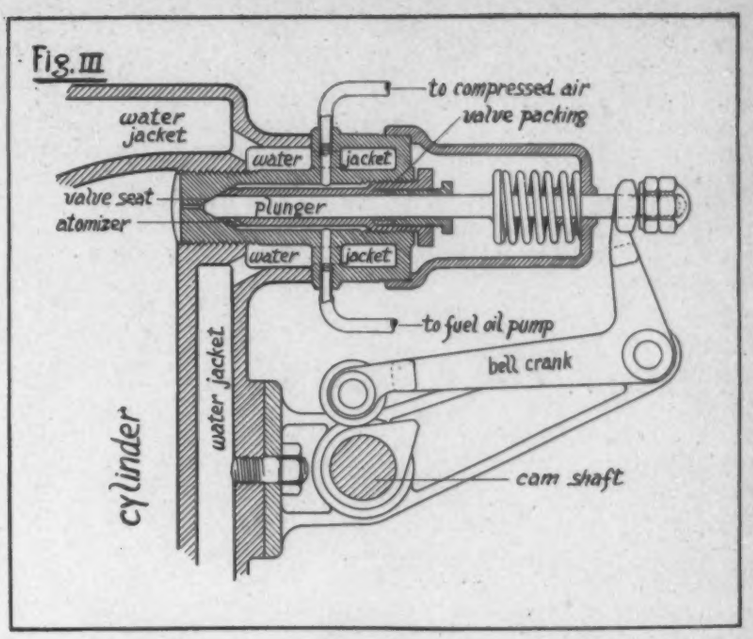


FIG. III. DIAGRAM OF FUEL INJECTION VALVE OF DIESEL ENGINE

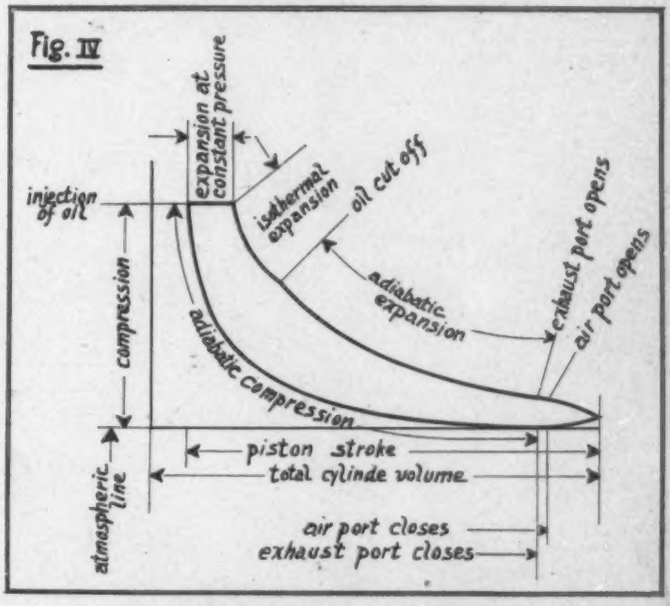


FIG IV.—INDICATOR DIAGRAM OF TWO-STROKE DIESEL ENGINE

pansion and exhaust stroke, as the Otto has. But, unlike the Otto, the pressure does not rise upon ignition of the charge. It expands at constant pressure for about ten per cent. of the piston stroke, when isothermal expansion takes place during a partial cut down of the fuel oil, after which adiabatic expansion takes place until the opening of the exhaust valve.

In some engines built under the Diesel patents there is no isothermal expansion. In others, where the compression pressure is not carried as high, the pressure may rise upon ignition, and then expansion at constant pressure takes place, followed by expansion at constant temperature and otherwise.

The indicator diagram of a Diesel engine resembles very much that of a steam engine. Fig. 1 is theoretically typical. The compression is carried to 500 pounds and over, this pressure being about .08 of the total cylinder volume, and corresponding to a temperature of 1,000 or more degrees Fahrenheit, adiabatic compression. Crude oil ignites well below 300 degrees Fahrenheit, so no ignition apparatus is required, the oil taking fire as it meets the highly compressed air.

Fig. 2 shows an Otto-cycle diagram for comparison. Comparing steam, Otto and Diesel, the thermal efficiencies in round numbers will range about 13 per cent. for a good steam engine and boiler (including a good stoker), 19 to 26 per cent. for the Otto, and as high as 48 per cent. for the Diesel.

This advance in efficiency for the Diesel is due to the more perfect combustion and nearer application of the fuel. As in the Otto against the steam engine, the source of heat is applied nearer to the working point, so in the Diesel the fuel is shot into the cylinder at the nearest point to the crank shaft that science and Dr. Diesel have been able to place it.

The injection of the fuel oil is through an especial valve of the plunger type in the cylinder head or valve chamber. Fig. 3 illustrates one of these valves and its actuating mechanism. Oil and air are delivered to the valve, the oil by a pump, and the air under about 800 pounds pressure. This forces the oil into the cylinder when the plunger is unseated by the cam action and *via* the bell crank. The cam shaft is governed mechanically to vary the length of time the plunger is off its seat (and consequently the amount of oil injected) to take care of varying loads, the aim being a constant speed engine, especially in electrical work. The air not only forces the oil into the cylinder, but tends to atomize it, facilitating the ignition and propagation of the flame.

The two-stroke, or so-called two-cycle type engine is the more popular in marine work, as it is reversible without extra mechanical complication, and is smaller and lighter per horse-power than the four-stroke engine, but not as efficient as regards fuel consumption. However, it approaches the four-stroke Diesel engine in fuel efficiency much closer than the two-stroke, light fuel en-

gine does the four-stroke Otto. Also, the scavenging process, when both inlet and exhaust ports are together open, is done with pure ozone. Fig. 4 is an indicator diagram of a two-stroke Diesel engine.

Engines of the Diesel type are built by various concerns in America and in Europe, subject, of course, to the Diesel patents, as small as 5 H. P. per cylinder at 600 R. P. M. There are under construction Diesel engines of as high as 6,000 H. P., two-stroke and double acting, in units of probably not over 2,000 H. P. per cylinder.

Any day there may be an item in some paper announcing the successful installation and performance of one of these monsters, in which every stroke is a power stroke—an advantage the steam engine has had over most of the gas engines so far.

The Worst Yachting Season on Record in England

By LINTON HOPE, N. A.

THE summer (so-called) of 1912 will long be remembered by all British yachtsmen as being the worst that even our apology for a climate could give. True, we had a few fine days about the end of May and the first week in June, and two or three more about the middle of July, but with these isolated exceptions the whole summer has been a succession of hard winds varied by heavy gales, with constant rain as a running accompaniment. The climax came with Cowes Week and, with extra malice, on the day of the King's Cup Race.

This race, which is a handicap for yachts owned by members of the Royal Yacht Squadron, naturally attracted a large entry and among the competitors were the two big racing schooners Meteor and Waterwitch, belonging to the A Class; the 23-metre cutter White Heather, and a number of fine cruising ketches and schooners, such as Lord Dunraven's Cariad, Sir William Portal's Valdora, Sir Maurice Fitzgerald's Julnar, Sir J. Pender's ex-racing schooner Lamorna, better known by her old name of Cicely, and Lord Iveagh's schooner Cetonia.

At the start the outlook was bad enough, and small topsails over reefed mainsails, or lower sails only, were the order of the day on the racing craft, although many of the cruisers with their snugger sail plans were able to carry all plain sail. Apparently the full force of the wind was not felt on the short pinch to the western mark, and all turned and went to the eastward, bound for the Warner lightship, with apparently no misgivings as to the yachts being under control.

The first trouble occurred off Ryde, when the schooner Waterwitch, when leading comfortably and going well, split her fore staysail, or damaged it in some way, and had to lower it. Then, just after passing the forts, a terrific squall struck them out of the valley forming Bembridge Harbor. Waterwitch shot up into the wind and became practically unmanageable, refusing to stay or wear at the lightship. Canvas was reduced as soon as possible, but the big schooners lay flat on the water like a lot of dead butterflies, and Meteor had 6 feet of water in her hold before she could be eased.

It is no ordinary squall when a fine powerful schooner of about 400 tons lies down and partly fills through her companion way and skylights. Even when mainsails were at last lowered, the sails were overboard, and in one case half an hour was spent in frantic struggles with the sodden canvas before the sail could be got on board. Luckily, no loss of life or gear occurred, but it was a terrible exhibition of what over-canvased vessels can—or rather, cannot—do in really bad weather, even in the comparatively smooth water inside the Isle of Wight.

Meanwhile many of the cruisers had turned it up as being too strenuous for their liking, but the last three boats, Lamorna (ex Cicely), Cariad and Valdora, were making grand weather of it and traveling at a rare pace.

At Cowes, when Lamorna showed up first round Old Castle Point, it was supposed that she had given up, as she was one of the last on the journey to the eastward. Then Valdora and Cariad appeared, but nothing else, and as time went by much astonishment was expressed at the non-appearance of the other yachts, until the news came from Bembridge and Sea View that nearly all the fleet had taken charge and had given up. Surely, never before have such big vessels been forced to give up simply through being entirely out of control. Certainly it was a very hard blow—40 miles an hour, rising probably to nearly 60 miles in the disastrous squall which put so many out of action—but one would have thought that, even so, a schooner could have been handled under her mainsail and jib only.

This was no doubt the worst day, but for three solid weeks we had hard winds and rain. In the smaller Solent Classes we only saw jackyarders on three occasions, and on two of the three we should have been much better without them. One of these days especially impressed itself upon my mind, as the 8-metre yacht I was sailing was a light weather boat and we were caught by a heavy squall when off the wind with our jackyarder to leeward, so that we could not get it down without coming up in the wind and going about. This would have let all the others get past us, so we decided to hold on if possible until we could jibe under the lee of Ryde pierhead.

I shall not forget that wild reach and run in a hurry, especially as the man on the main sheet would not ease it off when I told him to do so. Probably no one in America has suffered from our Solent hands, and it may be instructive if I give a brief description of what occurred on this occasion.

On rounding the weather mark, with a broad reach to the next buoy, the squall struck us, and, as I have already mentioned, our jackyard topsail was to leeward and could not be lowered without going a long way out of our course. Naturally, on being laid out flat by the squall, the boat began to gripe terribly, so that I could not hold her. I said, "Ease off some mainsheet," but my Solent expert replied, "No, sir, she's alright, the mainsail's drawing beautiful." My next remark was much more highly colored, to the effect that if he did not slack off enough sheet to spill the mainsail I couldn't hold her. This didn't worry him a bit; he only said, "Put your helm up a bit, sir, and keep her on her course," quite regardless of the fact that the helm was hard up and the tiller nearly breaking, while my arms and back were strained beyond bearing. Words failed me then, but luckily the squall eased a trifle until we rounded the next mark and had a run to the pier head.

Here, instead of all hands being prepared for a smart jibe at the critical moment under the lee of the pier, one idiot went forward to clear up some loose gear and could not be persuaded to come aft until we were out of the bit of shelter again. The result was we had to come up head to wind and stay her, letting two boats by us, and so losing our chance of a prize.

It so happened that the other boats had their topsails set on the starboard side, while ours was on the port side; consequently, they could—and did—get their topsails off on the reach from the weather mark, and so were more under command. I may say that this particular Solent hand was not one of our regular crew, but a special pilot engaged temporarily and recommended as a first-rate racing hand.

The effect of the gale on the King's Cup Day at Cowes was so bad that next day the 15-metre cutters would not start, as the

(Continued on page 262.)

Twelve Months in a "Spouter"

The Cruise of the Whaling Brig Alexander in the Pacific and Arctic Oceans, As Told by One of Her Crew

By WALTER NOBLE BURNS

I

WHEN the brig Alexander sailed out of San Francisco on a whaling voyage a few years ago, I was a member of her forecastle crew. Once outside of the Golden Gate, I felt the swing of blue water under me for the first time in my life. I was not shanghaied. Let's have that settled at the start. I had shipped as a green hand before the mast for the adventure of the thing, because I wanted to go, for the glamor of the sea was upon me.

We weighed anchor two days before Christmas and sailed straight down the map from San Francisco. We spent three weeks painting ship and bending new sails at Turtle Bay, a lonely harbor midway down the coast of Lower California, and reached the Hawaiian Islands in the early part of March, having cruised slowly under short sail for sperm whale on the way. Three weeks were spent among the islands and then we turned our prow northward and were on the bowhead and right whale grounds of the Behring Sea in the spring. We passed through Behring Straits August 15 into the Arctic Ocean and sailed to the westward as far as Herald Island. We made farthest north at 74 degrees North latitude, which is less than a thousand miles from the pole, a distance little greater than that between New York and Chicago. Then we squared our yards for home October 10th, had a fast and prosperous homeward voyage and dropped anchor in San Francisco Bay December 1st.

Let me correct at the outset a false impression quite generally held regarding whaling. Many persons—I think most persons—have an idea that, in modern whaling, harpoons are fired at whales from the decks of ships. This is true only of along-shore whaling. In this trade, finbacks and other kinds of whales of lesser value are chased by small steamers, which fire harpoons from guns in the bows and tow the whales they kill to factories along shore, where blubber, flesh and skeleton are turned into commercial products. Magazine articles have familiarized the public with this method of whaling. But whaling on the sperm grounds of the tropics and on the right whale and bowhead grounds of the polar seas is much the same as it always has been. Boats still go on to the backs of whales. Harpoons are thrown by hand into the great animals as of yore. Whales still run away with the boats, pulling them with amazing speed through walls of split water. Whales still crush the boats with blows of their mighty flukes and spill the crews into the sea. There is just as much danger and just as much thrill and excitement in the whaling of to-day as there was in that of a century ago. Neither steamers nor sailing vessels that cruise for sperm and bowhead and right whale nowadays have deck guns of any sort, but depend entirely upon the bomb-guns attached to harpoons and upon shoulder bomb-guns wielded from the whale boats.

TOWING OUT TO SEA BOUND FOR HONOLULU

In the old days, after whales had been harpooned, they were stabbed to death with long razor-sharp lances. The lance is a thing of the past. The tonite bomb has taken its place as an instrument of destruction. In the use of the tonite bomb lies the chief difference between modern whaling and the whaling of the old school.

The modern harpoon is the same as it has been since the palmy days of the old South Sea sperm fisheries. But fastened on its iron shaft between the wooden handle and the spear point is a brass cylinder an inch in diameter, perhaps, and about a foot long. This cylinder is a tonite bomb gun. A short piece of metal projects from the flat lower end. This is the trigger. When the harpoon is thrown into the buttery, blubber-wrapped body of the whale, it sinks in until the whale's skin presses the trigger up into the gun and fires it with a tiny sound like the explosion of an old-fashioned shotgun cap. An instant later a tonite bomb explodes with a muffled roar in the whale's vitals.

Though called a brig, the Alexander was really a brigantine— a lofty little vessel with a royal yard 80 feet above the deck. She was built at New Bedford for the whaling trade. Her hull was of stout oak, especially thick at the bows. She butted her way with impunity through the ice floes. Amidships she carried

"WE SAILED FROM TURTLE BAY ONE MOONLIGHT NIGHT"

a try-works, a brick furnace fitted with copper cauldrons for rendering blubber into oil.

Our crew consisted of twenty-six men. Twelve of these were in the cabin. They were the captain, mate, second mate, third mate, three boat-steerers, a cooper, steward, cook and cabin boy. The three boat-steerers were negroes. Big John, who steered the mate's boat, and "Big Foot" Louis, who steered the third mate's, were black fellows from the Cape Verde Islands, and Little Johnny, harpooner for the second mate, was a mulatto from Barbadoes. The cabin boy was a Kanaka.

There were fourteen men in the forecastle. They were as mixed a lot as it is possible to imagine. Five of them were deep-water seamen. Two were Kanakas, one of whom had been on two previous whaling voyages. Six were green hands. Among these were a cowboy, a "mule skinner" from railway construction camps, a country boy straight from the plow and with "farmer" stamped upon him in letters of light, a man suspected of having had trouble with the police, and another who in lazy night watches often spun frank yarns of burglaries. There was a former English soldier who said he had served in the Royal Life Guards, and a loquacious, shiftless product of city slums. This was the latter's seventh whaling voyage—which would seem sufficient commentary on his character.

"It beats hoboing," he said. And as his life's ambition seemed centered on three meals a day and a bunk to sleep in, perhaps it did.

Two Kanakas completed the forecastle crew. These and the cabin boy talked fair pidgeon English, but among themselves they always spoke their native language. I had heard much of the liquid beauty of the Kanaka tongue. It was a surprise to find it the most unmusical and harshly guttural language I ever heard. It comes from the mouth in a series of explosive grunts and gibberings. The listener is distinctly and painfully impressed with the idea that if the nitroglycerine words were retained in the system they would prove dangerous to health, and is fearful lest they choke the spluttering Kanaka to death before he succeeds in biting them off and flinging them into the atmosphere.

THE WHALING BRIG ALEXANLER

The brig carried three whale boats—starboard, port and waist boats. These were about 25 feet long, rigged with leg-of-mutton sails and jibs. These trim boats with their great expanse of canvas were remarkably fleet. The crew of each consisted of an officer in charge known as a boat-header, who sat in the stern and wielded the tiller; a boat-steerer or harpooner, whose position was in the bow; and four sailors who pulled the stroke, midship, tub and bow oars. Mr. Winchester, the mate, as skillful and fearless a whaleman as ever went on a whale's back, headed the starboard boat; Mr. Landers, the second mate, the port boat; and Gabriel, the third mate, a Cape Verde Island negro, the waist boat. I pulled the midship oar in the waist boat.

Everybody aboard a whaler from captain down ships on what is called a "lay"—that is, the profits of the voyage are divided (at least, theoretically) upon a percentage basis. The captain of the brig, I was told, shipped on a lay of one-sixth—and got it. As a green hand I shipped on a 190th lay—and didn't get it. We caught four whales, one in Behring Sea in the spring and three in the Arctic in the fall. Our whales averaged about 1,800 pounds of bone each, which that year was quoted at $6.50 a pound. We tried out all our whales except the last one until our casks were filled with oil. Our entire catch was worth over $50,000. The captain, officers and boat-steerers made a pretty penny out of the voyage. The sailors received $5 at the end. They were considered lucky at that, because sailors of whale ships usually are paid off after their year of work and hardship with one "big iron dollar."

The reason for this treatment of whaling sailors is not difficult to find. The method of obtaining the forecastle crews of whale ships is a "bunco" game from beginning to end. Deep-water sailors who make a living following the sea are the chief sufferers. They are led by boarding-house masters and runners to believe that they will make a large sum of money. Little subtlety is required to persuade green hands to sign articles. The whale ships take on crews in midwinter when there are plenty of men out of work who prefer a whaler's forecastle to the cross-ties.

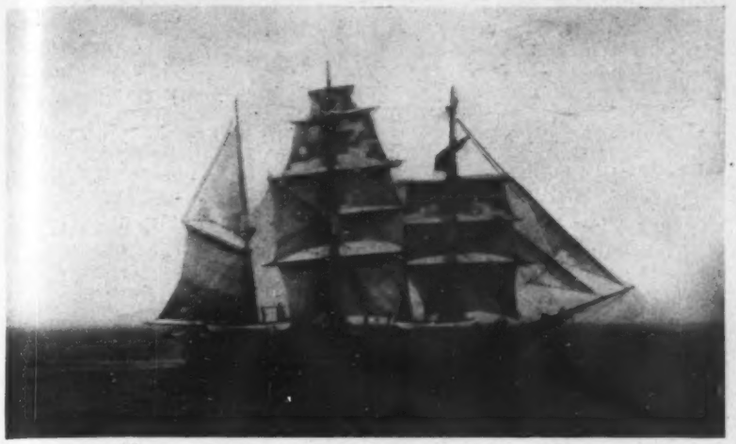
It is necessary that a whale ship have a number of able seamen. These do all the real sailorizing. The green hands soon learn to work aloft, to stand a trick at the wheel and on lookout and to go down in the boats after whales. So in a short time, except in the matter of expert sailor's work, a green hand becomes almost as useful aboard as an old salt.

The Arctic Ocean whaling fleet which sails out of San Francisco, and which in the year of my voyage numbered thirty vessels, makes its spring rendezvous in the Hawaiian Islands. Most of the ships leave San Francisco in December and reach Honolulu in March. The two or three months spent in this leisurely voyage are known in whaler parlance as "between seasons." On the way to the islands the ships cruise for sperm whale and sometimes lower for finbacks, sulphur-bottoms, California grays and even black fish, to practice their green hand crews. We were not anxious to take sperm whale, though the sperm's oil is still valuable. When we went down in the boats for sperm we went with harpoons devoid of any bomb-gun attachment. The whales that are chiefly hunted nowadays are baleen or bone whales. They are the right whale and the bowhead and have their habitat in the polar seas. Our regular skipper, Captain Shorey, joined the vessel by steamer at Honolulu, Mr. Winchester, the mate, taking the brig over from San Francisco to the Hawaiian Islands as captain. This necessitated a graduated advance in authority. Mr. Landers became mate between seasons, Gabriel second mate, and Tomas Mendez, a Cape Verde Island negro, who shipped as boat-steerer, third mate.

By the time we reached Turtle Bay, on the coast of Lower California, sailors and green hands had learned that, no matter what the catch, their pay for the voyage probably would be only a dollar. As a result a feverish spirit of discontent began to manifest itself and plans to run away at the first opportunity became rife.

Turtle Bay was a beautiful little harbor on an uninhabited coast. There was no village or any human habitation on its shores. A desolate, treeless, broken country, seamed by gullies and scantily covered with sun-dried grass swept away to a chain of mountains that forms the backbone of the peninsula of Lower California. These mountains were perhaps 30 miles from the coast and looked to the eye to be ridges of naked granite.

The three weeks at Turtle Bay were weeks of hard work. Sea watches were abolished and all hands were called on deck at dawn and kept busy until sundown. The hold was broken out and the cargo restowed snugly. New sails were bent. The yards and masts were slushed down, the rigging tarred and overhauled, the ship was painted inside and out and put in shape for her long voyage. On Sundays we went fishing in the boats. The waters of the bay were alive with Spanish mackerel, bonitos, albacore



AN OLD-TIMER. WHALER SEA BREEZE IN THE ARCTIC

and rock bass. A boat's crew fishing with hook and line would load a boat almost to the gunwales with fish in a few hours.

We were anchored about half a mile from shore, and after looking over the situation I made up my mind to try to escape. Except for an officer and a boatsteerer who stood watch, all hands were asleep below at night. Being a good swimmer, I planned to slip over the bow in the darkness and swim ashore. Once ashore I thought it would be an easy matter to cross the sierras and reach a Mexican settlement on the Gulf of California. By accident, however, I happened to get hold of a large map of Lower California, in the possession of one of the boat-steerers. I searched it up and down but could discover but two towns on the entire peninsula. These were TiaJuana, across the border from San Diego, and La Paz, on the Gulf of California near Cape St. Lucas. Either town, I should say, was about two hundred miles from Turtle Bay. With a desert country and granite mountain ranges intervening, the prospect of my reaching either town did not seem encouraging.

Possibly the officers got wind of the runaway plots brewing in the forecastle, for the mate came forward one evening and chatted with the sailors as we lounged about. He asked if we had noticed a pile of stones with a cross rising from it on the nearest of the harbor headlands. We had all seen it from the moment we dropped anchor.

"That," said the mate, "is the grave of three seamen who deserted from a whaler a few years ago. They knew nothing of the country and struck inland, hoping to reach a settlement. But there were no settlements. What is more, they found no water. The land is a waterless desert. Famishing at last, they turned back to the coast. Their ship had sailed away. No other came to rescue them. Few vessels pass close in shore along this coast, and the Lord knows whether they even saw a distant topsail. They died miserably of hunger and thirst, and it was not until the next year that men from another whaler found their skeletons, hanging together in their old sailor clothes, and buried them under the cairn you see on the headland."

The mate told his story dramatically and with a purpose. He intended it to dampen any runaway enthusiasm we might have and prevent us from attempting an escapade like that which brought the luckless trio to their melancholy fate. I think I should have attempted to escape despite the lonely grave and the mate's yarn if it had not been for the evidence presented by the map. If the country proved waterless, I thought I hardly could reach Tia Juana or LaPaz with only the water and provisions I could carry with me. So for the time being I gave up my plan for running away, and we sailed for the Hawaiian Islands one moonlight night soon afterwards.

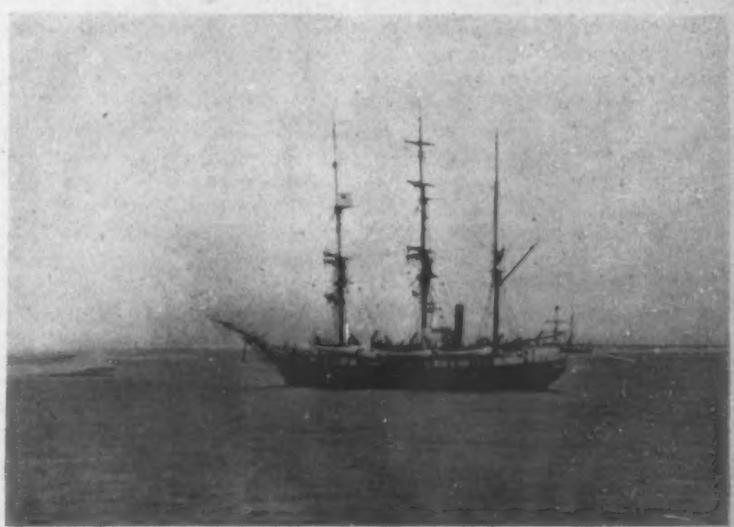
The crew called the third mate the "Night King." I have forgotten what forecastle poet fastened the name upon him, but it fitted like a glove. In the day watches when the captain and the mate were on deck, he was only a quiet, unobtrusive little negro, insignificant in size and with a bad case of rheumatism. But at night, when the other officers were snoring in their bunks below and the destinies of the brig were in his hands, he became an autocrat who ruled with a hand of iron.

He was as black as a bowhead's skin—a lean, scrawny, sinewy little man, stooped about the shoulders and walking with a slight limp. His countenance was imperious. His lips were thin and cruel. His eyes were sharp and sinister. His ebony skin was drawn so tightly over the framework of his face that it almost seemed as if it would crack when he smiled. His nose had a domineering Roman curve. He carried his head high. In profile this little blackamoor suggested the mummied head of some old Pharaoh.

His name was Tomas Mendez and he was a native of the Cape Verde Islands, a tiny speck on the map lying the breadth of your thumb nail off the northwest coast of Africa. He spoke English with the liquid burr of a Latin. His native tongue was Portuguese. No glimmer of education relieved his mental darkness. It was as though his outside color went all the way through. He could neither read nor write, but he was a good sailor and no better whaleman ever handled a harpoon or laid a boat on a whale's back. For twenty years he had been sailing as boatsteerer on whale ships, and, to give the devil his due, he had earned a name for skill and courage in a thousand adventures among sperm, bowhead and right whales in tropical and frozen seas.

My first impression of the Night King stands out in my memory with cameo distinctness. The tug had just cut loose outside Golden Gate heads, leaving us swinging on the long blue swells of the Pacific. The mate was roaring out his orders. The lower officers were passing them along. Boatsteerers in turn were shouting them to seamen. Men were springing aloft. Loosened sails were rolling down and fluttering from the spars. Sailors were tugging at halyards and "yo-hoing" on sheets. In the apparent chaos and bedlam of the moment, I saw Mendez, like an ebony statue, standing in the waist of the ship, an arm resting easily on the bulwarks, singing out orders in a clear, incisive voice that had in it the ring of steel.

When I shipped it had not entered my mind that any but white men would be of the ship's company. It was with a shock like a blow in the face that I saw this little colored man shouting orders. I wondered in a dazed sort of way if he was to be in authority over me. I was not long in doubt. When calm had succeeded the first confusion and the crew had been divided into watches, the captain announced from the break of the poop that "Mr." Mendez would head the port watch. That was my watch. While the captain was talking, "Mr." Mendez stood like a black Na-



A MODERN ARCTIC STEAM WHALING BARK

poleon and surveyed us long and silently. Then suddenly he snapped out a decisive order and the men jumped to obey. The Night King had assumed his throne.

The Night King and I disliked each other from the start. It may seem petty now that it's all past, but I raged impotently in the bitterness of outraged pride at being ordered about by this black overlord of the quarterdeck. He was not slow to discover my smoldering resentment and came to hate me with a cordiality not far from classic. He kept me busy with some silly job when the other men were smoking their pipes and spinning yarns. If I showed the left-handedness of a landlubber in sailorizing he made me stay on deck my watch below to learn the ropes. If there was dirt or litter to be shoveled overboard, he sang out for me.

"Clean up dat muck dere, you," he would say with fine contempt.

The climax of his petty tyrannies came one night on the run to Honolulu, when he charged me with some trifling infraction of ship's rules, of which I was not guilty, and ordered me aloft to sit out the watch on the foreyard. The yard was broad, the night was warm, the ship was traveling on a steady keel and physically the punishment was no punishment at all. There was no particular ignominy in the thing, either, for it was merely a joke to the sailors. The sting of it was in having to take such treatment from this small colored person without being able to resent it or help myself.

The very next morning I was awakened by the cry of the lookout on the topsail yard.

"Blow! Blow! There's his old head. Blo-o-o-w! There he ripples. There goes flukes." Full-lunged and clear, the musical cry came from aloft like a song with little yodling breaks in the measure. It was the view-halloo of the sea, and it quickened the blood and set the nerves tingling.

"Where away?" shouted the captain, rushing from the cabin with his binoculars.

"Two points on the weather bow, sir," returned the lookout.

For a moment nothing was to be seen but an expanse of yeasty sea. Suddenly into the air shot a fountain of white water—slender, graceful, spreading into a bush of spray at the top. A great sperm was disporting among the white caps.

"Call all hands and clear away the boats," yelled the captain.

Starboard and larboard boats were lowered from the davits. Their crews scrambled over the ship's side, the leg-o'-mutton sails were hoisted, and the boats, bending over as the wind caught them, sped away on the chase. The Night King went as boatsteerer of the larboard boat. I saw him smiling to himself as he shook the kinks out of his tubline and laid his harpoons in position in the bows—harpoons with no bomb guns attached to the spear shanks.

In the distance a slow succession of fountains gleamed in the brilliant tropical sunshine like crystal lamps held aloft on fairy pillars. Suddenly the telltale beacons of spray went out. The whale had sounded. Over the sea the boats quartered like baffled foxhounds to pick up the lost trail.

Between the ship and the boats the whale came quietly to the surface at last and lay perfectly still, taking its ease, sunning itself and spouting lazily. The captain, perched in the ship's cross-trees, signaled its position with flags, using a code familiar to whalemen. The Night King caught the message first. He turned quickly to the boatheader at the tiller and pointed. Instantly the boat came about, the sailors shifted from one gunwhale to the other, the big sail swung squarely out and filled. All hands settled themselves for the run to close quarters.

With thrilling interest, I watched the hunt from the ship's forward bulwarks, where I stood grasping a shroud to prevent pitching overboard. Down a long slant of wind the boat ran free with the speed of a greyhound, a white plume of spray standing high on either bow. The Night King stood alert and cool, one foot on the bow seat, balancing a harpoon in his hands. The white background of the bellying sail threw his tense figure into relief. Swiftly, silently, the boat stole upon its quarry until but one long sea lay between. It rose upon the crest of the wave and poised there for an instant like some great white-winged bird of prey. Then sweeping down the green slope, it struck the whale bows on and beached its keel out of the water on his glistening back. As it struck, the Night King let fly one harpoon and another, driving them home up to the wooden hafts with all the strength of his lithe arms.

The sharp bite of the iron in its vitals stirred the titanic mass of flesh and blood from perfect stillness into a frenzy of sudden movement that churned the water of the sea into white froth. The great head went under, the giant back curved down like the whirling surface of some mighty fly-wheel, the vast flukes, like some black demon's arm, shot into the air. Left and right and left again, the great tail thrashed, smiting the sea with thwacks which could have been heard for miles. It struck the boat glancingly with its bare tip, yet the blow stove a great hole in the bottom timbers, lifted the wreck high in the air and sent the sailors sprawling into the sea. Then the whale sped away with the speed of a limited express. It had not been vitally wounded. Over the distant horizon it passed out of sight, blowing up against the sky fountains of clear water unmixed with blood.

The other boat hurried to the rescue and the crew gathered up the half-drowned sailors perched on the bottom of the upturned boat or clinging to floating sweeps. Fouled in the rigging of the sail, held suspended beneath the wreck in the green crystal of the sea water, they found the Night King, dead.

When the whale crushed the boat—at the very moment, it must have been—the Night King had snatched the knife kept fastened in a sheath on the bow thwart and with one stroke of the razor blade, severed the harpoon lines. He thus released the whale and prevented it from dragging the boat away in its mad race. The Night King's last act had saved the lives of his companions.

I helped lift the body over the rail. We laid it on the quarter deck near the skylight. It lurched and shifted in a ghastly sort of way as the ship rolled, the glazed eyes open to the blue sky. The captain's Newfoundland dog came and sniffed at the corpse. Sheltered from the captain's eye behind the galley, the Kanaka cabin boy shook a furtive fist at the dead man and ground out between clenched teeth, "You black devil, you'll never kick me again." Standing not ten feet away, the mate cracked a joke to the second mate and the two laughed uproariously. The work of the ship went on all around.

Looking upon the dead thing lying there, I thought of the pride with which the living man had borne himself in the days of his power. I beheld in fancy the silent, lonely, imperious little figure pacing to and fro on the weather side of the quarter deck—to and fro under the stars. I saw him stop in the darkness by the wheel, as his custom was, to peer down into the lighted binnacle and say in vibrant tones, "Keep her steady," or "Let her luff." I saw him buttoned up in his overcoat to keep the dew of the tropical night from his rheumatic joints, slip down the poop ladder and stump forward past the try-works to see how things fared in the bow. Again I heard his nightly cry to the lookout on the forecastle head, "Keep a bright lookout dere, you," and saw him limp back to continue his vigil, pacing up and down. The qualities that had made him hated when he was indeed the Night King flooded back upon me, but I did not forget the courage of my enemy that had redeemed them all and made him a hero in the hour of death.

In the afternoon an old deep-water salt, hard and seamed of face, versed in the mysteries of the palm-and-needle, sat on the deck beside the corpse and fashioned a long canvas bag. Into this the dead man was sewed with a weight of brick and sand at his feet.

At sunset, when all hands were on deck for the dog watch, they carried the body down on the main deck and, with feet to the sea, laid it on the gangplank which had been removed from the rail. There in the waist the ship's company gathered with uncovered heads. Over all was the light of the sunset, flushing the solemn rough faces and reddening the running whitecaps of the

(Continued on page 262.)

TECH, JR., MAKING A MILE IN 1 MINUTE AND 11 1/5 SECONDS, OR AT THE RATE OF 58.30 STATUTE MILES

Tech, Jr., Wins the One-Mile International Record Contest

IN a wonderful burst of speed which at times lifted her completely out of the water, Tech, Jr., a little 20-foot monoplane, broke all records for speed in the One Mile International Record Contest at Huntington on the day following the International Races. The mile-a-minute boat has long been talked of, and that this speed is near at hand was shown in this performance of Tech, Jr., when she covered one of the miles in the contest in the wonderful time of 1 minute and 11 1/5 seconds, or at the rate of 58.30 statute miles an hour. This record will bear the closest scrutiny, as the distance was specially surveyed between permanent marks on shore, while the watch holders were all members of the Timers Club of New York.

The inducement that brought four boats to the line to enter this record contest was a valuable trophy presented by Mr. Otto N. Heins, and the conditions required all the contestants to go over a mile course six times, three with and three against the tide, without a stop, their times being averaged according to the Admiralty system, the starts being all flying.

When Tech, Jr., which is owned by Col. T. Coleman Du Pont, of Wilmington, Del., came to the line for the first run over the course she started with a jump that carried her body clean out of the water, even showing her propeller shaft where it comes out from the bottom of the boat. The conditions were not particularly good, the water being rough and the wind blowing quite fresh. With an ear-splitting racket from her exhaust the little boat jumped away at a speed never before attained by a motor boat, her engines turning up over 1,400 revolutions to the minute, while the hull seemed to leap from wave to wave in her wild gait. When she had finished the mile the watches caught the time of 1 minute and 11 1/5 seconds, which figured an average of 50.7 knots or 58.3 statute miles an hour.

Her return trip, however, in the face of the wind, was disappointing, as she took almost a minute longer to make the trip, though in her next three laps she did better, coming within 25 or 30 seconds of her first phenomenal lap. On her last lap her engines did not seem to be working as well, possibly due to the amount of oil which the crew had been pouring into her, and she required 2 minutes and 38 4/5 seconds for the trip, which for a while made it look as if it would cost her the trophy. Her first lap, however, made her the winner, her average for the six trials being 35.045 knots or 40.4 statute miles per hour.

Baby Reliance III, owned by Mrs. J. Stuart Blackton, the boat which ran second on the last day of the International Races, also completed six laps, her best mile being done in 1 minute and 24 4/5 seconds, or at the rate of 48.76 statute miles. She also had two bad laps which brought her average for the six miles down to 37.11 statute miles an hour.

Panther Cub also went over the course, but her performance was very disappointing, as she did no lap in less than 2 minutes and 30 seconds. Baby Reliance II showed up, but owing to a hot clutch was not able to start. Maple Leaf IV, the victor of the previous day in the International contest, came out in the middle of the afternoon, and it was announced that she would make a try for the record, but after running around aimlessly for a while she was lifted back on board her lighter, and it was said that her broken rudder, with which she had had trouble during the series, would prevent her from taking part.

The following is the summary of the times of the four boats:

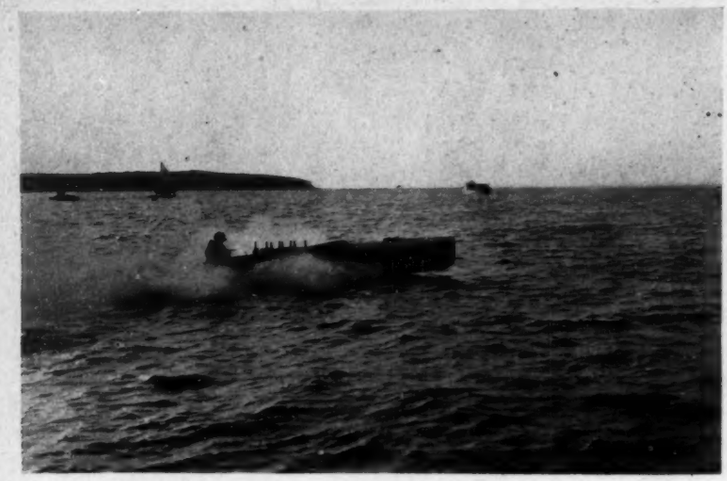
Tech, Jr.'s, times were: 1:11 1-5, 2:08 1-5, 1:40, 1:36 4-5, 1:41 3-5, 2:38 4-5; average, 35.045 knots or 40.4 statute miles; best mile, 50.7 knots or 58.3 statute miles.
Baby Reliance III.—2:31, 1:42 4-5, 2:28 3-5, 1:44 3-5, 1:24 4-5, 1:45 2-5; average, 32.23 knots or 37.11 statute miles; best mile, 42.4 knots or 48.76 statute miles.
Panther Cub.—2:48 1-5, 3:31, 2:31, 2:45, 3:45, 2:17.
Baby Reliance II.—Unable to start.

The Month in Yachting

THE CHOICE OF THE AMERICAN TEAM AT HUNTINGTON

THE thing that stands out the most prominently in connection with the recent contest for the Harmsworth Cup at Huntington Bay was the extremely unsatisfactory series of elimination races and the fact that the makeup of the American team was not known until the veritable "eleventh hour." There was surely enough money spent on the cup defenders this year to warrant better results in selecting a defending team. Certainly, when one starts in the middle of the winter and spends anywhere from $10,000 to $40,000 on a boat he at least has a right to expect that that boat will be completed and ready to run some time before the hour set for the starting of the first race.

As a matter of fact, however, not one of the American team was really ready and in the shape it should have been at the starting of the first elimination race. In several instances hulls were



BABY IV, ONE OF THE RELIANCE FAMILY THAT DID NOT QUALIFY

completed at the last minute, engines were hastily installed, and no time was had to test out the hull or the various parts of the equipment, on which success so much depends. All through the series of elimination races the contestants kept coming to the starting line when they pleased, ran as far as was convenient (which was usually as far as they could go), and did not give the committee a real chance to see the respective merits of the boats. How much the committee was to blame for this in not insisting that the boats report on time and be started together, I do not know. It is known, however, that there were many good boats at Huntington that did not qualify, owing to the fact that there was still much work to be done upon them.

The committee's selection of the team has also been questioned. There is no doubt that Ankle Deep and Baby Reliance II fairly earned a place on the team, though the latter had not completed the full course in anything like record time during the trials. Why the Reliance III should have been chosen on her previous performances, instead of Peter Pan V, is not known. Peter Pan V had made an average of 40.08 statute miles an hour over three laps of the course in rough water and by consistent running. It had been demonstrated on several days of the trials what was needed to strengthen the team was not only a reliable boat, but one that would go in rough water.

Peter Pan had been "hipped" with a couple of metal "bustles" on either side of her waterline, which widened her two steps somewhat and evidently added to her stability. It seemed like bad judgment on the part of the committee not to place her on the team, especially as Reliance III up to that time had not demonstrated her superiority, Baby II being evidently the fastest of the Blackton fleet. On the last day of the Internationals, however, it must be stated that Baby III came into her own, and, had she started on time, would have made a wonderful race with Maple Leaf IV.

The management of the eliminations left much to be desired; but we have come to look for this sort of thing so much that I suppose we would really be surprised to see anything different at an international elimination race.

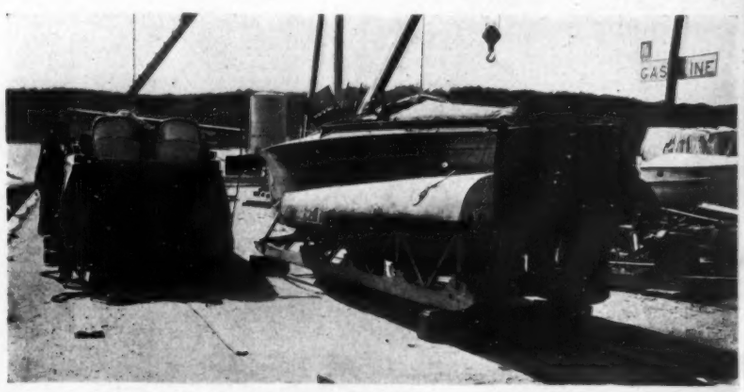
Some of the other boats from which great things were expected and which did not come up to scratch were Minnow, a little 26-footer, that split a plank and had to be beached; Ace III, which unfortunately sank in deep water in the first day's trials; Saracen; Restless II, which was again a sad disappointment to her owner, and Tech, Jr.

The trouble which seemed brewing at the close of the Chicago Water Carnival over the possession of the Wrigley Trophy for power boats, which the judges declared to be won by Baby Reliance II, and which decision was protested by Commodore Pugh, because he claimed that he had already won two heats for the cup before Baby II was entered, has been settled by Commodore Pugh receding from his position and renouncing any claim on the cup. At the same time, he sent a wire to Commodore Blackton, congratulating him on winning the trophy. It is unfortunate that the controversy arose; and while Commodore Pugh may have had reason for feeling that the committee had not played fairly by him, he was somewhat ill-advised in not abiding by their decision and in withdrawing from the race and threatening legal action. It was undoubtedly a matter of hasty judgment, made in the heat of the contest, and subsequent reflection made him take the action that he did.

PETER PAN V JUMPING AWAY TO A START

In our last issue appeared a picture of a houseboat built after the fashion of an old Mississippi River steamer, which was at the Chicago Water Carnival, and which, owing to an error of the printer that got by our proofreader, was credited with being the property of "Doc" Dunn. In case anyone is familiar with the boat Lad, we want to correct this and state that she is owned by Dr. Dixon, of Burlington, Ia., Commodore of the Burlington Launch Club.

Now that the Harmsworth Cup has gone back to England, we will have a chance to see how good sportsmen the motor boat owners of this country really are. One challenge for next year is already assured. We should, however, send a full team to try to recover the cup, and from present indications several boats will be built with this trip in view.



PETER PAN V WAS "HIPPED" OUT WITH METAL BUSTLES

A Cruising Schooner Built on Fishermen's Lines

IN following closely the model of a Gloucester fishing schooner, John G. Alden, naval architect, of Boston, Mass., has turned out an unusually able and weatherly little boat which he has just designed for a Connecticut yachtsman. This boat is a schooner, 40 feet 6 inches on the water line, 55 feet 6 inches over all with 14 feet 2 inches beam and 8 feet draft, and she was designed to fulfil the requirements for an able off-shore cruiser. The ends are short, the sheer is good, while the lines are fair and easy. Sixty per cent. of the ballast is carried outside and forty per cent. inside, which should add to her comfort at sea by tending to do away with the quick, jerky motion of a boat with all the ballast outside. No topmasts are shown in the sail plan, but light sails can be carried from the pole masts with the exception of a fore topsail. The rig is extremely simple and easy to handle, the effective area of the working sails being 1,630 feet.

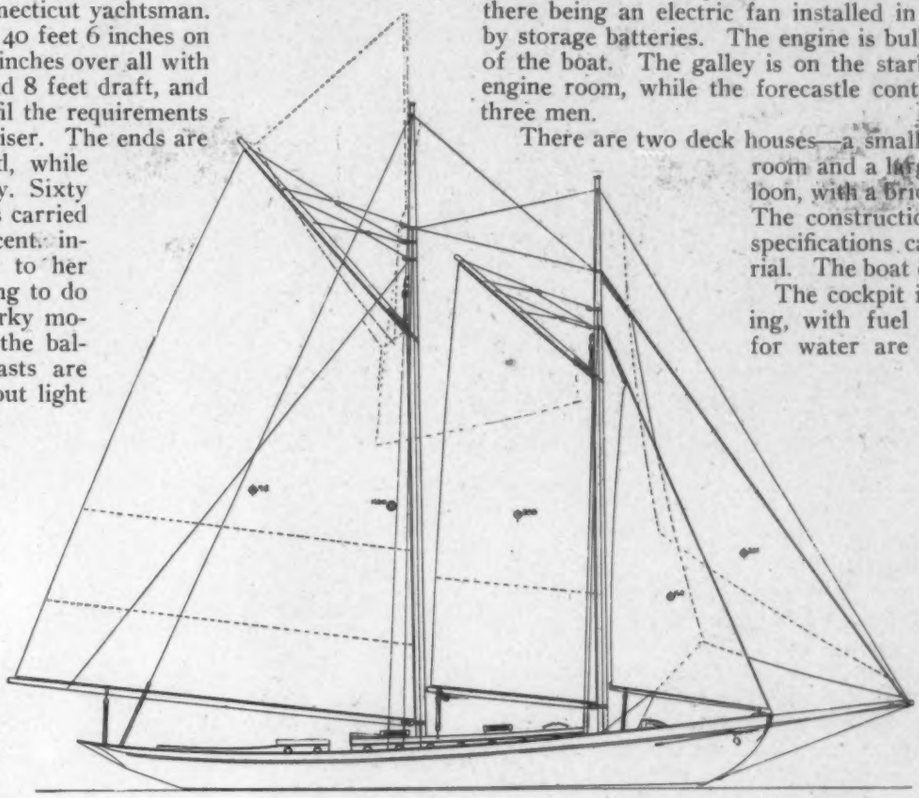
The accommodations are extremely roomy, the boat having a large double stateroom aft, a commodious main cabin, a single stateroom forward and engine room, galley and large forecastle.

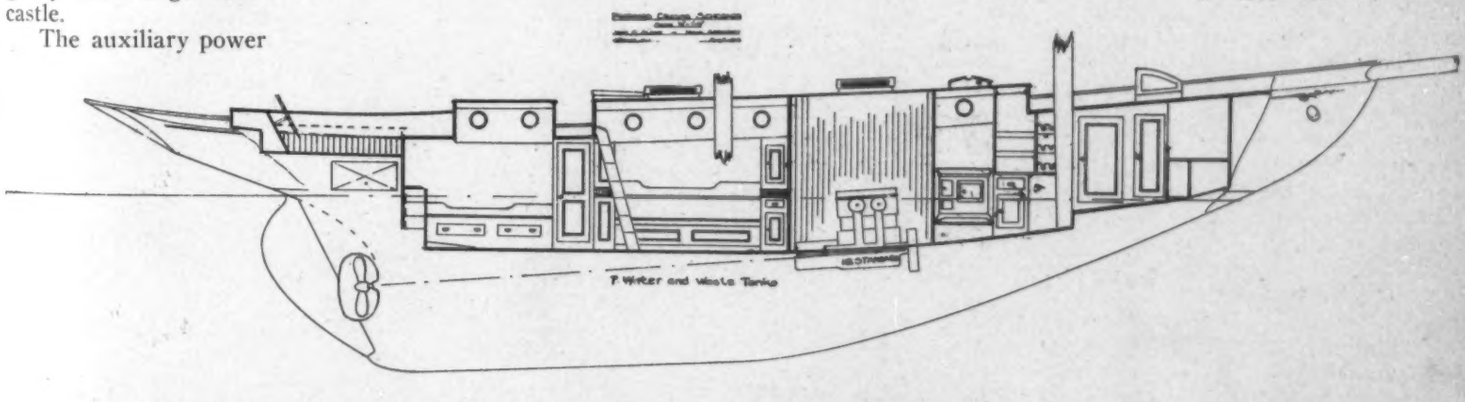
The auxiliary power consists of a heavy duty engine approximately 25 H. P., which will give the boat an estimated speed of 8 miles an hour. Special attention has been paid to the ventilation of the engine room, there being an electric fan installed in this compartment driven by storage batteries. The engine is bulkheaded off from the rest of the boat. The galley is on the starboard side abreast of the engine room, while the forecastle contains accommodations for three men.

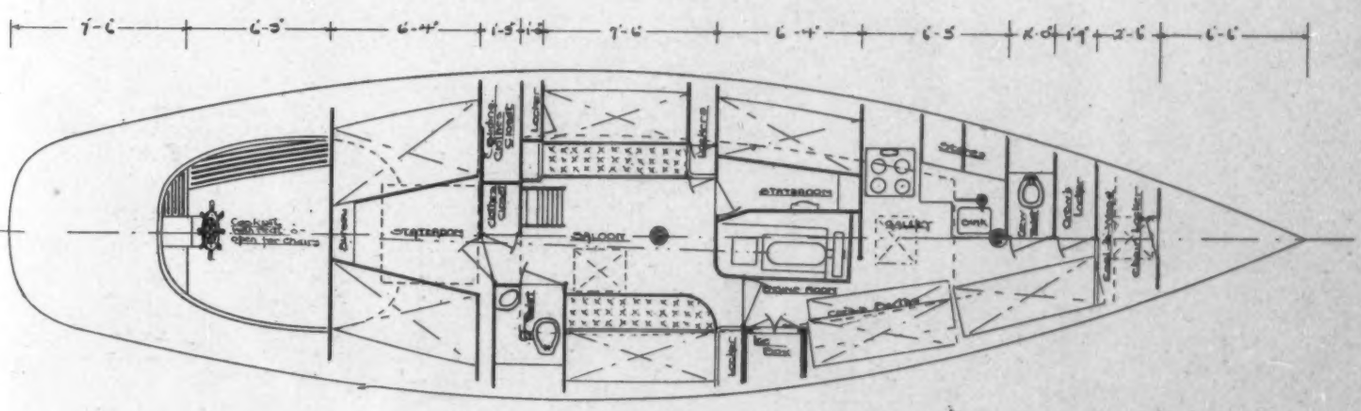
There are two deck houses—a small one over the after stateroom and a larger one over the main saloon, with a bridge deck between the two. The construction is very heavy and the specifications call for the best of material. The boat ought to last a lifetime.

The cockpit is shallow and self-bailing, with fuel tank under, while tanks for water are located under the cabin flooring.

In order to be strong enough to carry partners for the mainmast, where it comes up through the cabin house, the latter has been built with unusual solidity, so that the top of the deck house is in effect simply an elevated deck, which not only gives the mast full support but will carry all the load which can be placed upon it. The rig is extremely handy, and the boat should prove an ideal cruiser.







DOLPH II, A NEW 72-FOOT POWER CRUISER, BUILT BY THE MATTHEWS BOAT COMPANY FOR MR. W. G. STUBER. SIX-CYLINDER STANDARD ENGINE

An English Auxiliary Yawl

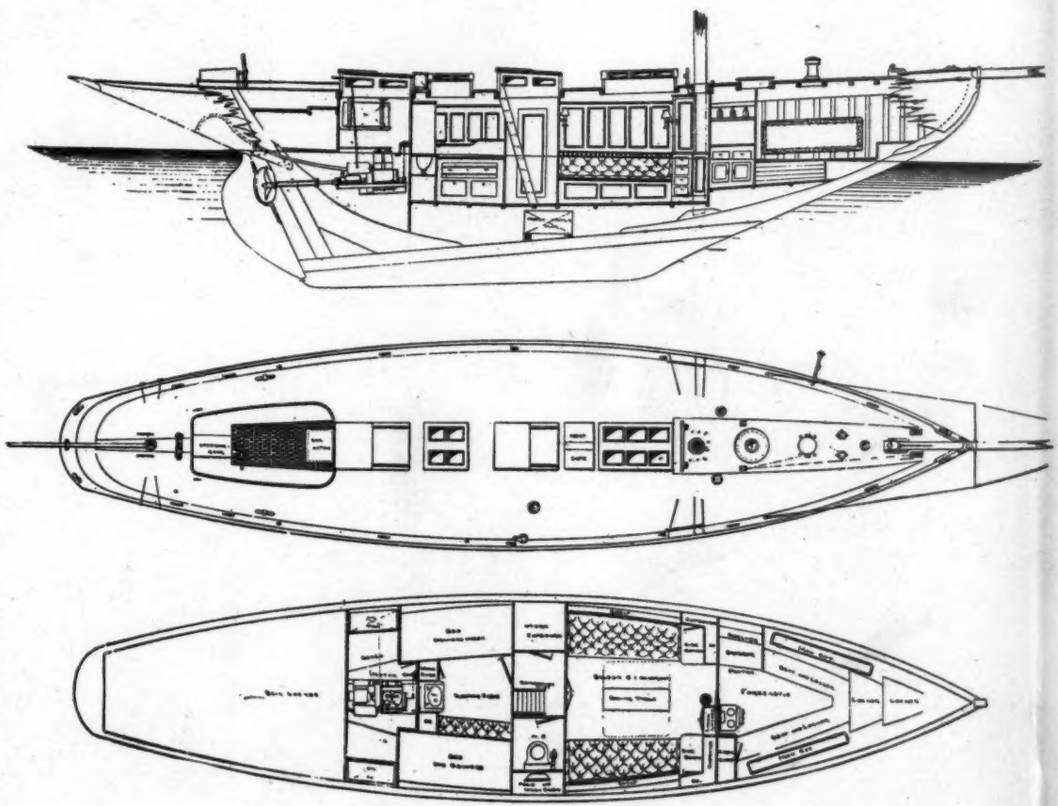
THOUGH in this country practically every cruising sailing yacht that is now built is an auxiliary, the English yachtsmen have been a little more conservative in adopting the gas engine for auxiliary power. This prejudice seems to be rapidly passing away and it is gratifying to see how they now appreciate the value of a gasolene motor stowed away below decks.

The plans of the 52-foot over all yawl which we publish herewith are interesting as giving a comparison of the English and American design in boats of this type. The boat is being built for a Dublin yachtsman.

Her principal dimensions are: Length over all, 52 feet; length waterline, 38 feet 3 inches; beam, 12 feet; draft, 7 feet 6 inches; while she measures 24 tons.

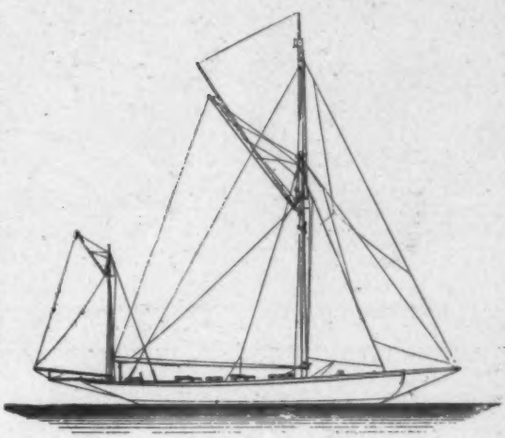
The boat has fairly short ends and easy lines which, with a good-sized sail plan, should make her fairly smart under sail. Her auxiliary power consists of a two-cylinder Parsons motor of 14 H. P., installed in an engine room partitioned off from the rest of the vessel by double watertight bulkheads. It is located aft, just forward of the cockpit, and is reached by a sliding hatch from the deck—a very good arrangement, as the noise and odor are thus kept out of the living quarters. The motor room occupies only about 4 feet of the vessel's length, while on either side of the room are located the fuel tanks. A connecting rod enables the reverse gear to be operated from the steering wheel. This power will give the yacht a speed of about 5 knots.

The accommodations are excellent for the beam of the boat,



and consist of a large stateroom with two built-in berths just forward of the engine room. Forward of the stateroom are a lavatory on the starboard side and a storeroom on the port side. The main saloon contains two sofa berths, sideboard, folding table, etc. While the boat is flush decked, with skylights, there is 6 feet 1 inch of head room under the deck beams. A good-sized galley and forecastle are forward, the latter containing two pipe berths. The yacht will be built to Lloyd's highest rating.

She has the generous freeboard and solid construction characteristic of all cruising craft designed for service about the British Isles. Keel, stem and stern timbers are of oak and unusually heavy. The frames, too, are oak, from specially selected pieces, having the natural crook, and to give additional strength alternate frames are doubled.



The propeller opening is cut partly out of the rudder, in order not to weaken the sternpost. Ballast, which is all outside, consists of an iron shoe on the keel, cast in one piece.

There are two rather interesting features of rig: First, the upright capstan for handling anchor cables and chains instead of the horizontal windlass usually seen on this side; and, second, the jigger forestay, which is led down to deck across the swing of the main boom.

This will, of course, require to be shifted every time one tacks ship or jibes, but it gives a more positive support than does our vertical stay-and-strut arrangement.

A 30-Foot Twin Screw Day Cruiser

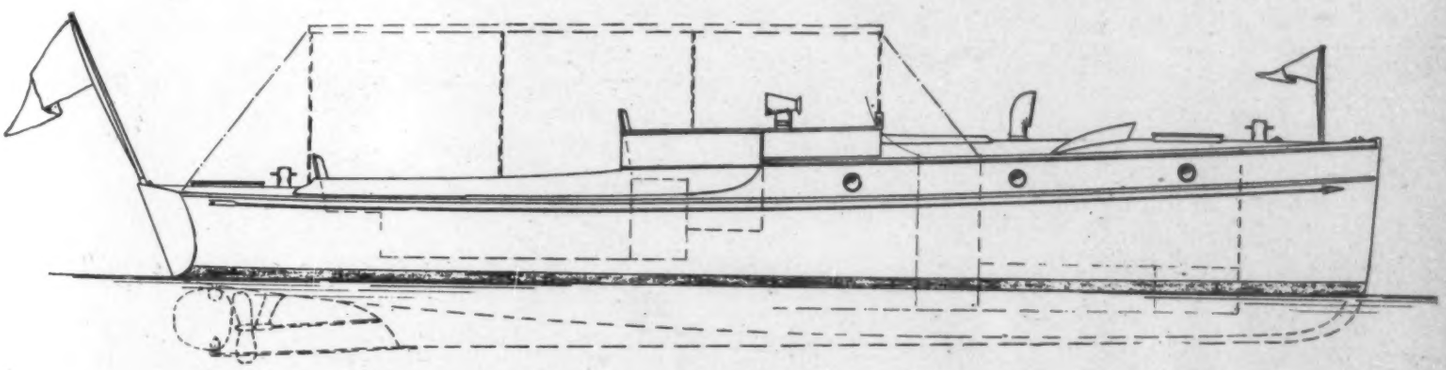
IN designing a 30-foot boat to fill the requirements for a fast day cruiser, Mr. Ralph E. Winslow, of Quincy, Mass., has turned out a remarkably handsome and able-looking craft of unusual speed for her size. While designed primarily for a fast day boat, she has been given enough accommodations for week-end cruises, having comfortable sleeping accommodations for two people, with ample locker room, cooking facilities, toilet, etc. The engine compartment is unusually roomy and is designed to contain two 25-horsepower engines of fairly high speed, turning two screws. With this outfit a speed of 15 miles an hour is estimated.

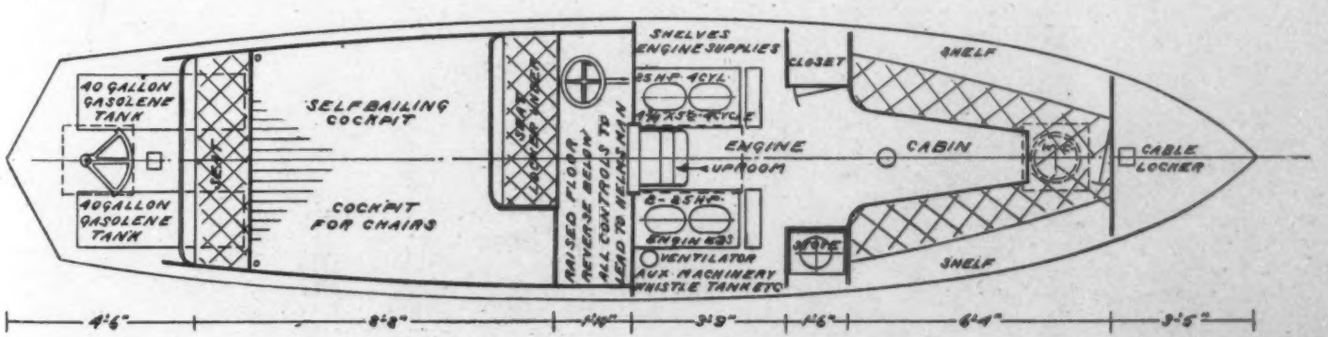
A somewhat novel feature of the arrangement is her bridge deck, with a raised platform over the reverse gears, and with a bridge seat raised high enough to allow the helmsman a good view ahead without standing up. A spray cloth protects this bridge and the forward cockpit in rough water or rainy weather. The cockpit is large and roomy and is arranged for chairs, though there is a lazy-back seat across the after end. It is self-bailing.

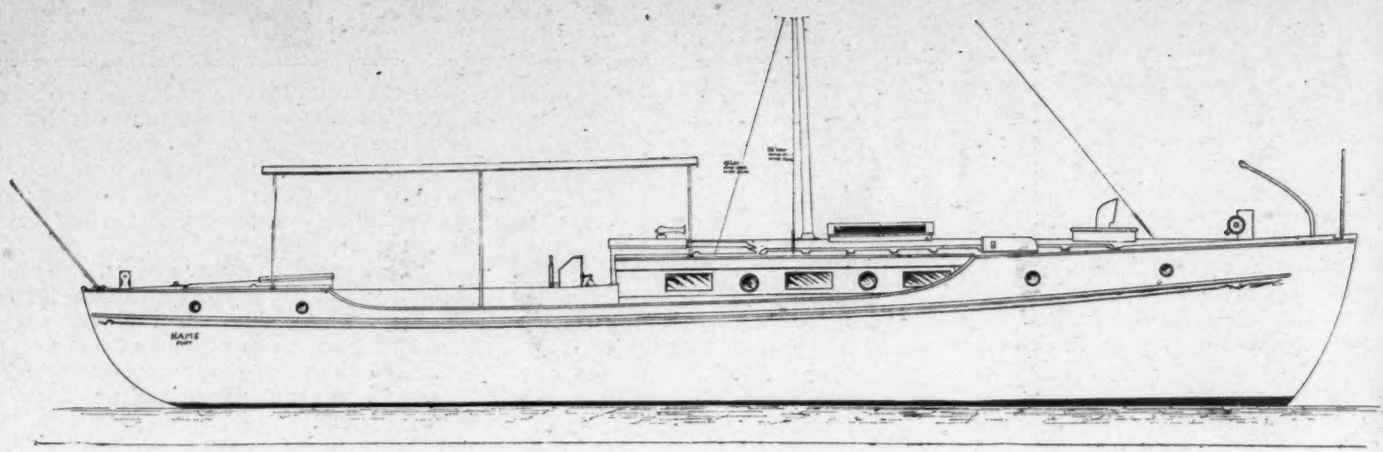
The dimensions of the boat are: Length over all, 30 feet; length water-line, 28 feet 6 inches; beam, 6 feet 10 inches, and draft, 2 feet.

She has a straight stem and stern, while the freeboard is well proportioned and not so high as to spoil either looks or seaworthiness.

The tail shafts are carried by vertical struts, and the propellers are spaced well apart on the quarters. Fuel is carried in two seamless galvanized tanks of 40 gallons capacity each, located aft in the transom. This gives a gasolene capacity which, assuming a speed of 15 knots for the boat, should make her capable of running in the neighborhood of 200 miles on one filling of the tanks, which is a somewhat remarkable capacity for a boat of this size and type.



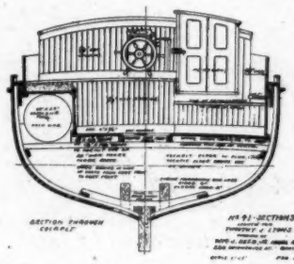




A 40-Foot Power Boat for Coast Cruising

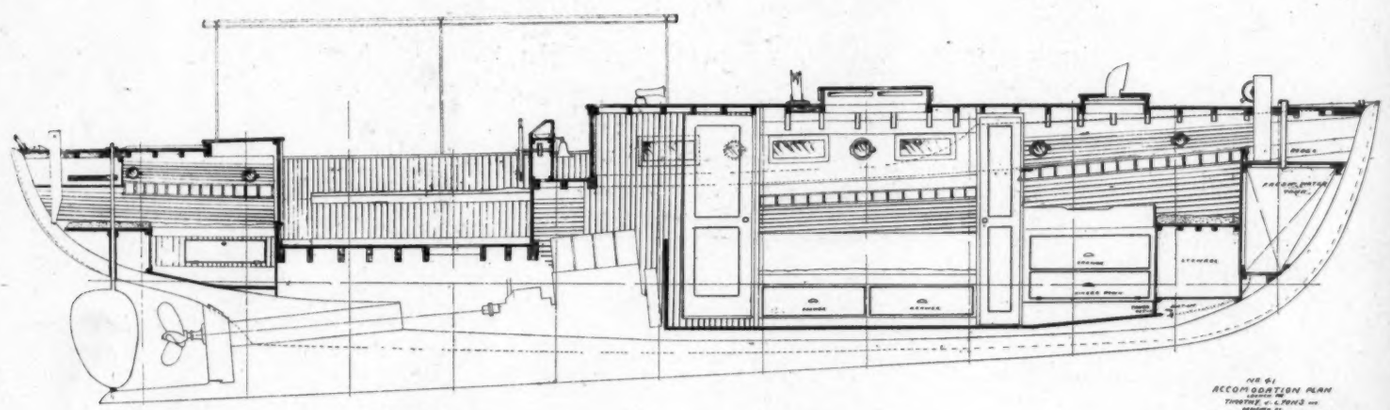
IN the design of a 40-foot cruiser for use on the New England coast, Mr. W. J. Deed has incorporated many ideas which he has found to add to the ability of a boat and which have proved popular. This boat was designed for Mr. T. J. Lyons, of Boston, and is 39 feet 11 inches over all, 35 feet 4 inches on the water line; 9 feet 6 inches beam, with a draft of 3 feet 6 inches. She has good freeboard, there being 5 feet 4½ inches at the bow, while the least is 3 feet 1½ inches. The bow sections are neatly turned with sufficient flare to throw off a sea.

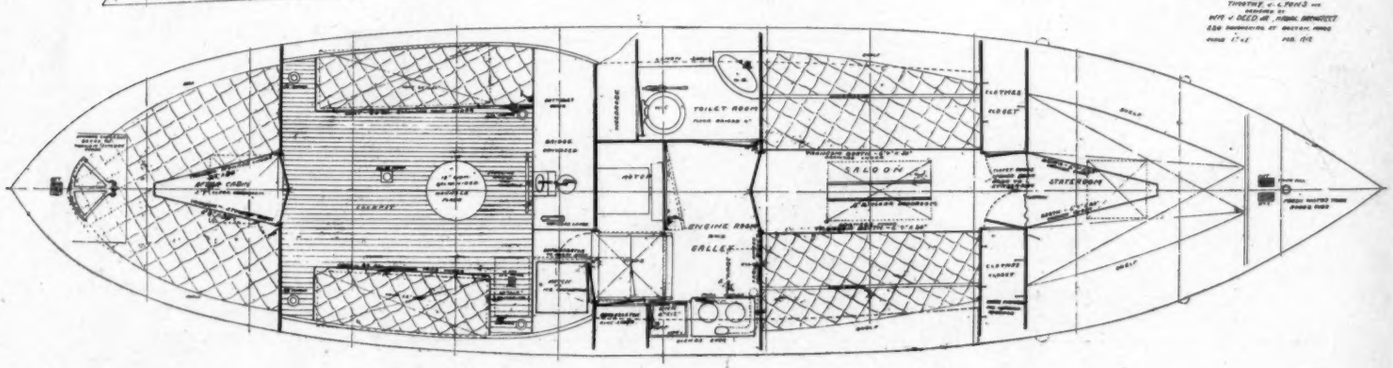
In the design, the architect has concentrated all his weights as near the center of buoyancy as possible. The 4-cylinder Scripps motor, two 80-gallon gasolene tanks, stove, ice and the weight of passengers and crew are all kept amidships, making her a much better sea boat than where the engine is in the bow and the weights are distributed. This concentrating of the weight amidships prevents all squatting of the hull and the boat leaves a clean, easy wake.



The arrangement is well worked out. The first four feet forward are taken up by a fresh water tank and cable locker. Next comes a stateroom with 6-foot 4-inch berths. Between this room and the saloon are closets 15 inches wide, giving plenty of locker room. The saloon has transoms on either side which, by means of removable back boards, make wide berths for the night. The galley is very conveniently located and is well found with a No. 2 Shipmate range, sink, lockers, etc. Under the bridge and main deck is placed the refrigerator with a flush hatch on deck for stowing the ice.

A 160-gallon fuel capacity will give the boat a large cruising radius, and in order to obtain this in two tanks it was necessary to adopt a special floor construction shown in the section through the cockpit. The cockpit is self-bailing.





BOW AND STERN VIEW OF VOYAGER

The 60-Foot Cruiser Voyager

LAST year the Matthews Boat Company built for Mr. D. C. Whitney, of Detroit, Mich., a 60-foot cruiser of the raised deck, double-ender type, which was entirely out of the ordinary as far as motor boats go. The performance of this boat was watched by Mr. Brush, the automobile designer, and he collected data during the summer as to what modifications he would make on a boat of similar type that would permit of his going out in any kind of weather.

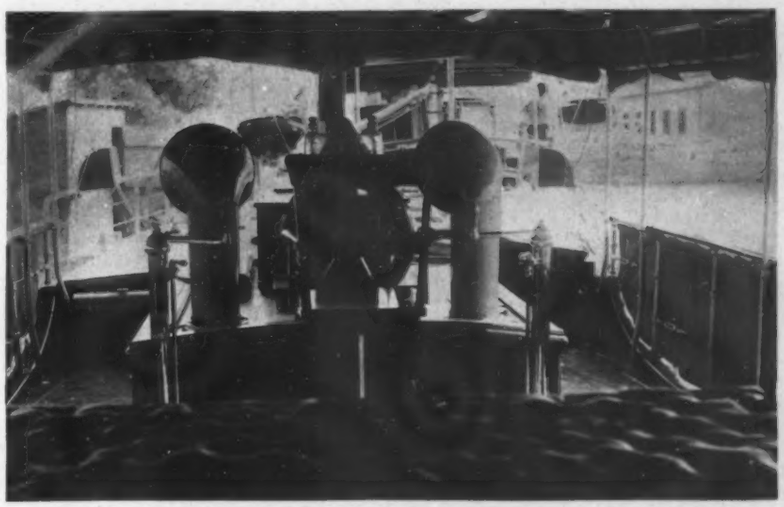
As the result of Mr. Brush's interest, the Voyager was designed and built for him, this being his third Matthews cruiser. As Mr. Brush does not carry any paid hands, as he and his brother-in-law are the "full works" when it comes to operating the boat, everything was arranged to make the handling as simple as possible.

The general dimensions of the boat are: Length over all, 60 feet; beam, 12 feet; draft, 4 feet 6 inches. The motive power consists of two 40 H. P. Sterling motors, with full deck controls.

The construction provided for very heavy scantlings throughout; in fact, the dimensions of the construction timbers are twice the ordinary size used in a 60-foot boat. The boat is divided into four watertight compartments by one double-thickness wooden bulkhead and two steel bulkheads, the steel bulkheads being located at either end of motor room. The motor compartment is steel-lined throughout.

The arrangement, which may be seen from the plans herewith, is rather unique, and is quite different from what is usually found in a boat of this length. The heavy weights are all located amidship, with good headroom throughout in all parts of the boat. The different features have been worked out with an eye to practical comfort.

The galley is located at the forward end of the boat and is especially complete, the refrigerator being of very large size and filling from deck. Other features, such as alcohol stove, sink, with hot water connections, ice water connections, dish racks, tables, dish lockers, are well thought out. A door opens into the dining room adjoining, which, with the galley, is finished in a grill room effect. The sides and the furniture of this room are finished in fumed oak and the upholstery is of bright red leather. Companionway steps leading to bridge are on starboard side. A special folding table built to fit the space is also provided. Eight people can be comfortably seated at this table.

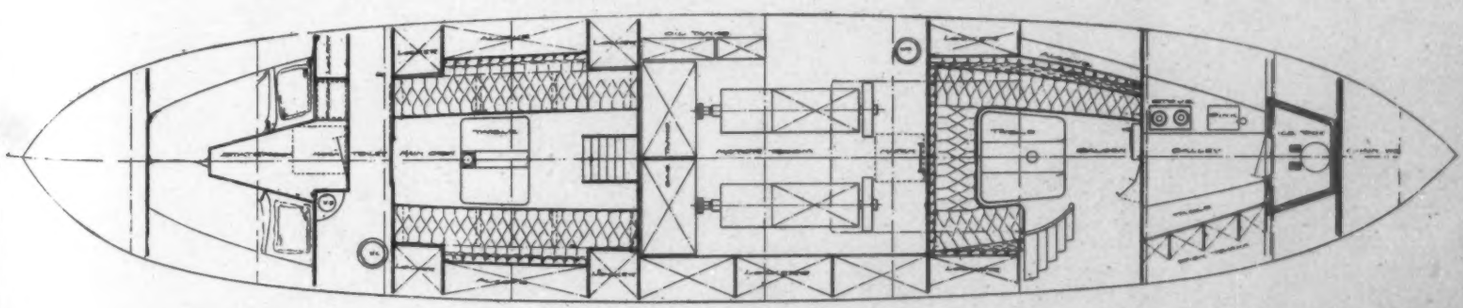


THE BRIDGE DECK AMIDSHIPS

The motor room, immediately following, is arranged for the installation of the two 40 H. P. Sterling motors, and has full headroom at the forward portion of the engines, the after portion of the engines being under the bridge deck, where the headroom is four feet 6 inches. The gasolene tanks are installed at the after end of this compartment.

The main cabin, which is aft of the motor room, is 13 feet in

(Continued on page 262.)



Mess Room Talk

IN this Department we will answer questions concerning the problems which boat owners are constantly running up against in the operation of their motors or the handling of their boats. Theoretical as well as practical questions will be answered promptly by mail, and when of sufficient interest will be printed for the benefit of YACHTING readers. This service is free. Don't hesitate to make use of it. Address, Information Department, YACHTING, 141 W. 36th St., New York City.

Sail Plan for Racing Dinghy

Some of the young men about Boston are planning to have a sailing dinghy class next year with the following restrictions: Total length, 10 feet; maximum cost, $50; one man to sail; no shifting ballast.

The plans show a boat of 10 feet over all, 5 feet extreme beam, that will displace 550-560 pounds when loaded to the load water-line, and which gives about 36 square feet of wet surface. I plan to step the mast 2½ feet from the stem, and to set a standing lug-sail of about 85 square feet and a foresail of about 25 square feet; total, 110. By using a large dagger board forward and a small one just forward of the transom I can so balance the sail plan with the lateral plane that I can lift the rear board and take off the fore sail (say by a Burgoine patent), and thus avoid reefing the lug. By using such a scheme, what is the greatest amount of sail this hull can carry? And what suggestion have you to make either in form of hull or sail plan or increased or decreased displacement for a boat to beat this one? The only consideration is speed, but the boats are to be sailed out in the open harbor, hence the 550 pounds displacement.

W. S. W.

The question of how much sail a given model can safely carry is one which does not lend itself to mathematical solution, because the chief factors—wind and skill—are, unfortunately, variables. Judgment and personal taste must be the deciding elements. It would not seem to us, however, that the rig mentioned above is at all excessive. While only 10 feet long the racing dinghy actually belongs in a much larger class, so far as carrying sail is concerned, by reason of her extreme beam and generous displacement. We believe, however, that unless the class limitations specify the rig which you have chosen you would do better to step the mast a foot farther forward and give the boat a cat rig with boom and gaff, and of about the following dimensions: Head, 9 feet; foot, 12 feet; hoist, 9 feet; angle of gaff with mast, 35 degrees. This will give an approximate sail area of 120 square feet, which will be much more effective than if split up into two sails.

The labor of reefing such a small sail is negligible, and even if it were not we believe that you would be disappointed if you expected to relieve the boat very much by taking in your jib; you would probably have to reef the lug-sail about as soon as the larger boom and gaff sail, yet the former would not give nearly as good service.

Size and Pitch of Propeller Determine Engine Speed

JENSEN, FLA.

Will you kindly answer the following question through the columns of your valuable paper?

I want to know what will be the difference in horsepower, judged by the number of possible revolutions, between a 30-horsepower automobile engine running in a boat and the same engine running in an automobile. In other words, could the engine possibly turn a propeller in water (having no regard to pushing a boat) the same number of revolutions that it could turn in the motor car?

Again, I want to know if a 30-horse auto engine, running at the rate of 1,500 revolutions to the minute, could possibly turn a propeller in the water at the same number of revolutions without reducing the size of said propeller to an impracticable minimum?

What is the scientific ratio in horsepower between the same engine turning in an auto and turning a propeller in the water judged by the number of revolutions it would be possible to get in each case?

E. C. B. T.

The size and pitch of the propeller are the only factors that will determine the number of revolutions made by a motor when it is running at full power. As the gear ratio in the transmission case of an automobile determines the number of revolutions per minute at which the engine turns for a given speed of the car, so do the size and pitch of the propeller blades regulate the speed at which the engine shall turn up for a given thrust on the boat. There is a certain amount of slippage to a propeller, however, that sometimes increases greatly at high revolutions. The resistance to the travel of a boat increases about in proportion to the cube of the increased speed. By using a small wheel of low pitch in the boat, any desired engine speed can be obtained, although 1,500 revolutions per minute of the motor will not give the best results; 1,200 and 1,300 is considered about the most efficient speed at which to run a high-powered, four-cycle marine motor, for the best combination of boat speed and fuel economy is then obtained.

The last paragraph of your letter is unanswerable. The engine in both cases will develop the same power if it is allowed to turn at the same speed, and, as mentioned above, this speed is regulated either by the gear ratio—if an automobile—or by the size and pitch of the propeller of a motor boat. The mechanical efficiency of the transmission and gears, however, is slightly higher than the effective push applied to the water by the propeller turned by the same motor.

Care of the Canoe

YORK, PA.

Will you kindly, if possible, give me some information as to the care of a canoe? I have a white canoe that needs a new coat of enamel. How shall I go about doing it? Also my canoe paddles need varnish. How can I keep them from getting dark?

A. B. T.

The old way to remove varnish and paint was by scraping, but there is on the market now some paint and varnish removers. These contain full instructions as to applying them. The surface of the canoe should be as clean and smooth as possible before applying the new paint.

You can get a prepared enamel gloss finish paint at any good paint house. Use the varnish remover for cleaning the paddles before revarnishing them. You will doubtless find in the directions that the remover should be wiped off thoroughly, so as to avoid staining the paddles a darker color. They will require three coats of varnish every season. If two coats of paint are required, depending upon the condition of the boat, the first must be thoroughly dry before the second is applied.

You might like to secure a copy of our handbook, "The Motor Boat, Its Selection, Care and Use," which gives considerable information of value to canoe owners. The price of this handbook is 70 cents.

To Lengthen Boat by Adding New 'Midship Section

CHICAGO, ILL.

I am intending to saw a 12-foot boat in half this winter, and build in a new 'midship section to increase the length of remodeled boat 4 or 5 feet. Now what I would like to have you tell me is, how am I to go about this; after the sections are separated and a new keel and frames are in is it necessary to replank the entire length of boat or do you leave the original planking on the ends and just plank in the new 'midship section?

H. G. H.

I would say that it would be about as difficult a matter to saw a 12-foot boat in half and build in a new section as it would to build an entirely new boat. Ordinarily it is not necessary to replank the whole boat when lengthening a boat in this manner, as each old plank can be cut at a different place, so that the new planking can be fitted in over the new part without making the joints all come in one place, as would be the case were the planks sawed squarely off.

In a large boat the planks do not go the whole length of the boat, and they can often be stripped off from where they butted against another plank. In a 12-foot boat, however, it is likely that the planks run the whole length of the boat, and in sawing them in two it would leave only short butts at either end if the planks are cut in different places. As, for instance, the first plank in the middle, the second plank 8 feet from the forward end and 4 feet from the after end, the third plank 4 feet from the forward end and 8 feet from the after end, and so on. It would make a butt in every plank, which would, of course, weaken the boat.

It probably can be done, but to my mind it would be easier to build entirely over again, using as much of the old material as you could.

Ballast for 18-Footer

NEW YORK.

Outing published in August, 1911, plans and instructions for building an 18-foot knockabout sailboat. I am about completing the building of a boat after these plans, and I desire to present a question for your consideration.

My boat will be sailed as a single-hander almost exclusively, therefore no live ballast will be available. Will I require any ballast; if so, how much? My cockpit will be ceiled in, and before doing this part of the work I would put in what ballast is necessary, fastening it inside out of sight. F. S.

The boat in question was designed to sail without ballast, being flat with hard bilges and having an iron centerboard. If not over-rigged the boat could be sailed easily with one or two persons. If she should prove a little tender with only one person aboard, two or three sandbags, weighing about 50 pounds each, as ballast could be used to good advantage and with very little trouble. It will not be necessary to have ballast built in.

Cause of Faulty Balance

CHICAGO, ILL.

I have a 21-foot keel sloop which seemed to be about evenly balanced, but some river pirates used her and broke her bowsprit, and while we had her out last Sunday, while on the starboard tack she carried a lee helm, and on the port tack a weather helm. Now we think that they must have bent her rudder or damaged her keel, and would like to know whether anything else could make her act that way, and what would be the best thing to do? J. J. M.

The quickest and simplest way to find out what is the matter with your boat is to haul her out and have a look at the bottom.

From the description it sounds very much as she had picked up something on her keel or rudder which is trailing on the port side and tending to pull her head around that way. If it was a case of a piece having been broken off her keel she would carry a lee or weather helm (according to whether the forward or after end of the keel was decreased in area) on both tacks alike. It is quite possible, as you suggest, that the keel or rudder, if metal, may have been bent, or the shoe on the keel may have been knocked adrift and slewed around. You cannot tell for sure until you see her out of water.

The Brigantine Rig

BOSTON, MASS.

In your issue of August I noticed a picture of a hermaphrodite brig which you called a brigantine. The brigantine differs, in that it has a square topsail on the main mast just above the fore and aft mainsail. If they have a fore royal I suppose they would have a main top-gallant sail also. I have never seen one so rigged. O. F. S.

A careful scrutiny of the August YACHTING fails to disclose anything answering to the description of the vessel given in this letter. The nearest approach to it is the photograph of a barkentine—a three-masted vessel, square rigged on the fore—which appears on page 83 and is correctly labeled. However, the question brought up as to the proper nomenclature of uncommon rigs is one which always interests the true salt.

As a matter of fact, the term hermaphrodite brig *is* the strictly correct name for a two-masted vessel, square rigged on the fore and carrying a fore-and-aft rig on the main, which is the combination that you appear to have seen somewhere in the August YACHTING. But for convenience and brevity this rig is popularly termed *brigantine*, just as the type of rig shown on page 83 is called *barkentine*.

The rig which you speak of as a true brigantine, *i. e.*, a two-masted vessel, square rigged on the fore and carrying square sails above the fore-and-aft mainsail, is to the best of our knowledge obsolete.

Automobile Engine for Marine Use

BRIDGEPORT, CONN.

I have an old but good automobile engine rated at 15-25 horsepower and capable of turning up 1,000 revolutions per minute, and would like to know if there is any reason why I cannot install this in my 35-foot cruising yawl, and have it do satisfactory work as an auxiliary provided I gear it down, say 1 to 2, to the tail shaft. This will make the propeller turn 200 revolutions per minute when the engine is running at normal speed, which seems to me about right. It will take up much less room than a marine engine of the same power and is lighter. D. F.

What you say about saving in space and weight is quite true, but there are several rather large difficulties in the way of this style of installation. In the first place, there is a loss of power in the transmission which increases with the speed and the ratio of reduction. Then there is the additional noise of such a gearing to be considered, which is a rather important matter in a cruising boat. Finally, and most important, there is the fact that an automobile engine is not, as a rule, built heavily enough to stand up well under the strain of running for long stretches under constant load and at top speed as the marine motor must. We would recommend a heavy-duty marine engine of 10 to 15 horsepower, turning 350 revolutions per minute, for your boat.

Spring Stay for Jiggermast of Yawl

NEW LONDON, CONN.

My brother and I have a 30-foot yawl, which is a splendid sea boat but she has an unusually high jiggermast, and sometimes out in the Race we have been afraid that it was going over her stern. It has the usual forestay coming down to the deck a few inches ahead of the mast and passing over a strut at the hounds, but this does not seem to give the proper support. Can you suggest any way of strengthening the mast against the strain to which it is subjected when the boat pitches in a head sea? L. M. K.

There are two common methods of correcting the fault which you mention. Probably you have double shrouds. In that case you may carry the forward pair still farther forward, so that there is just room for the main boom to clear them when it swings off. If this does not give the jigger mast enough support forward you may use a spring stay, as they do on the North Sea fishing ketches. This is a stay with a tackle on the lower end of it which is led to the foot of the mainmast or some permanent fitting on the deck well forward of the jiggermast. It must, of course, be shifted every time one jibes or comes about.

POWER FISHERMAN BEATRICE E., OF GLOUCESTER, WITH SEINE BOAT ALONGSIDE

Too Much Protesting

Now that the season of 1912 is drawing to a close, the last races having already been sailed, one is able to look back and size it up, by and large. On the whole, it has been one of the best seasons from the standpoint of racing or organized yachting activity for some years. More boats were in commission, more boats were raced, and there were more events of first importance than have been seen in this country since 1909. Racing everywhere was keen and hard fought, and there were several new boats and a half dozen new classes that carried the sport out of the usual ruts. The only racing that lagged was the long distance events, which seem to have lost some of their zest for power boat sailors and windjammers alike. It is true that the Bermuda race for power boats was revived this year, but all but two of the entries four-flushed on it, while several other formerly popular long distance races had to be abandoned or failed of interest by reason of the paltry list of starters. This is a pity, as long cruising contests that take one on blue water are the most enjoyable and do more toward the development of man and boat than any other kind of contest. It looks as if the real sailors need shaking up again.

One thing, however, that has been noticed this year, is the large number of protests and squabbles that have marked both the power boat and sailing events. In many classes the competition has been so keen that every technicality was invoked against the opposing boats and protest flags have been much too numerous. The awarding of trophies has been protested, with court action threatened, wholesale disqualification of boats has been talked of, and in many ways the larger side of the sport has been overlooked in the desire to win. It goes without saying that in playing the game one should always play it according to rule, but there is such a thing as being too technical for the good of the sport, or too ready to invoke the aid of rules to make a winner out of a boat that cannot or does not win on her merits. Racing, as with any competition, is good fun, and has a broadening influence on the sport as long as it is carried on with good feeling, but when acrimonious discussions engender hard feeling it is time to cut out the sport entirely. It might be a good thing to send down the halyards of the protest flag for a while.

Ocean Racing for Auxiliaries

How about an ocean race for medium-sized auxiliaries *using power when they want to?* In our summer season, when the deep-water events are held, the most appalling obstacle to the securing of a full entry list is usually the prophetic vision of a flat calm for three days, with the result of an enforced week's vacation from the office instead of a week-end run. It is by virtue of overcoming this same difficulty for the cruiser that the auxiliary has become so justly popular. Why not carry the thought to its logical conclusion and apply the auxiliary to the long distance racing problem as well?

Ocean racing has suffered this past season. The power boats, when all is said and done, are uncomfortable craft to drive in an offshore contest—the Bermuda Race amply demonstrated that—and are not nearly as able as sailing craft. Sail, on the other hand, is slow in regions subject, like our Atlantic Coast, to baffling airs and calms. Can't we combine the two and gain the advantages of both—a quick passage and a sure one—whether the weather be light or heavy?

No doubt you are already thinking of the difficulty of rating boats in such a race, and of the efforts which would surely be made to beat the rules by building what would virtually be power boats with just enough sail to qualify. But similar troubles have arisen with every new type of racing craft—witness the tempest which ushered in the hydroplane. It is something to figure on after the yards are filled up once more with the winter crop. Think it over!

Don't Haul Out Too Early

By the time this issue of YACHTING gets to you, most of the "yachters" who go sailing for pleasure will be hauling their boats out. It is nothing short of scandalous the way the majority of pleasure sailors shorten the season by hauling out at the first cool nor'wester that strikes in after September 1st. They wait all winter for a season on the water, and when it comes they get about two and a half months of sailing, and that's all. The very best sailing on the Atlantic Coast in this latitude is early in the spring and late in the fall. October is one of the finest months in the year to sail, save that the evenings come early, and there is no reason why a man shouldn't get six months of use out of his boat instead of curtailing the season by hauling out early in September. A little wind and a little flying water won't hurt any boat, and anyone who has once tasted the pleasure of cruising in late October or early in November, when the shores are beginning to turn yellow and brown, will keep his boat in until the snow flies, if it is a possible thing. One appreciates the good days he gets at that time of the year, knowing that they are probably the last he will have for six months.

The advent of the power boat has prolonged the season somewhat, but even here the luxury-loving owners are too keen to haul out at the first crisp day rather than to taste the pleasures of a late season on the ducking grounds on our bays and rivers. Try keeping the boat in until November this year and see if you don't find that we are telling the truth.

For the Ideal Cruiser

Feeling as we do that the cruising boat, with ability to carry her owner in comfort and safety wherever he may desire, makes a strong appeal to every true sailorman, YACHTING intends to run, this coming winter, a series on the ideal cruiser, taking up in separate articles the various types of boats. For instance, there will be an article on the ideal single-handed cruiser; one on the ideal cruiser not over 40 feet long over all—a boat in which a man can go from Florida to Newfoundland and live aboard all summer. There will be one on the ideal 30-foot power cruiser; another on the best 45-foot power boat, etc.

The plans for these boats will be furnished by some of our leading naval architects, who will tell what is essential for the ideal boat under discussion, and who will give an analytical criticism of the lines and rig and will pay particular attention to the interior layout. It will not be a hodge-podge of amateur designs with impractical cabin arrangements and poor lines, but a comprehensive series that will be of value to every man interested in boats.

FINAL SUMMARY

International Motor Boat Races

VALENTINE'S

VALSPAR

"The Varnish That Won't Turn White"

Leads Again

FINAL DAY'S SUMMARY OF INTERNATIONAL RACE

Start 2:00; course thirty nautical miles.

Boat, Owner, Length, Horsepower, Driver and Mechanician.	First Round. Finish. Elapsed Time.	Second Round. Finish. Elapsed Time.	Third Round. Finish. Elapsed Time.	Fourth Round. Finish. Elapsed Time.	Total Elapsed Time. H. M. S.
Maple Leaf IV., E. M. Edgar; Tom Sopwith; A. Stapleton; 39 feet 11 inches; 700 h. p.	2 12 21 12 21	2 24 21 12 00	2 36 16 11 55	2 48 16 12 00	48 16 ..
Baby Reliance III., Mrs. P. Blackton; J. Smith; W. Bugh; 26 feet; 150 h. p.	2 15 08 15 08	2 27 22 12 14	2 39 38 12 16	2 51 46 12 08	51 46 ..
Ankle Deep; Count Mankowski, owner; F. Grenore; 32 feet; 150 h. p.	2 11 43 11 43	2 23 32 11 44	2 35 06 11 34	Disabled	..
Baby Reliance II., J. S. Blackton; B. Smith; W. Flaherty; 20 feet; 90 h. p.	2 11 45 11 46	2 23 58 12 12	Disabled	..	..
Mona; Marquess of Anglesey; M. Batting; F. Murtagh; 25 feet; 150 h. p.	2 14 49 14 49	2 34 10 19 21	Disabled	..	..

Maple Leaf IV.—Best lap at 37.50 knots or 43.125 miles; average speed entire course, the same; on actual time, average 37.00 knots or 42.535 miles.

Baby Reliance III.—Best lap at 37.113 knots or 42.63 miles; actual average for entire course, the same; elapsed, full course, 34.615 knots or 39.80 miles.

Ankle Deep.—Best lap at 38.71 knots or 44.51 miles.

Mona.—Best lap at 30.25 knots or 34.787 miles.

Baby Reliance II.—Best lap at 38.298 knots or 44.053 miles; first lap, actual time, at 40 knots or 46 miles.

[New York Herald]

These wonderful boats represent top notch efficiency in boat building. In their construction the best materials in the world are used. Price is a secondary consideration.

The builders know that Valspar is the only varnish that will stand the terrific speed and constant soaking with water without turning white.

Every American boat used Valspar. It is our belief that Valspar was also used on the English boats, but we have been unable to verify this. It is a safe bet that it was, however, for the reason that the best English, like the best American boat builders, will have no other kind.

Last year the same thing was true. Every boat in the International Race used Valspar, because it is the only Varnish in the world *that won't turn white in water*. We are willing to prove this to you personally. We will send you on request a sample of Valspar with testing panel. Use coupon if you are interested.

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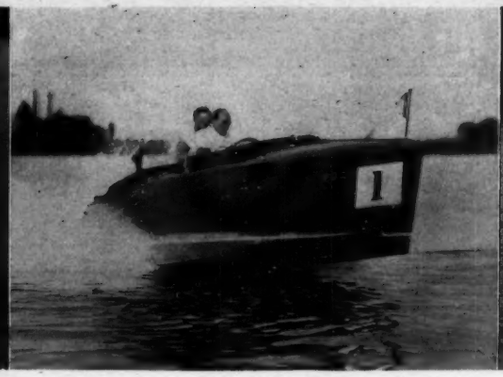
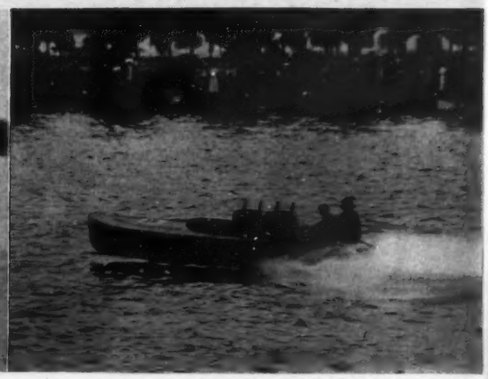
BABY RELIANCE III



P. D. Q. II



BABY RELIANCE II

Baby Reliance II Sweeps the Field at Buffalo

Remarkable speed and consistency characterized the three-day regatta of the Motor Boat Club of Buffalo held over the Niagara River course September 12-13-14. By making a clean sweep of the three big races, winning the International Interlake Championship, the 30-mile free-for-all contest and the 32-foot championship, Baby Reliance II, driven by her owner, J. Stuart Blackton, proved herself to be the speediest and most consistent outfit in the country. She completely outclassed the other contestants and during the last day's event covered 35 miles in the astonishing time of 45 minutes 20 seconds, averaging 46.75 miles per hour. This is a world's record for the distance. Incidentally she covered the last lap of five miles at the rate of 47.37 miles per hour.

It was the best, and by far the fastest, race meet ever held on the Niagara River. Two accidents marred the second day's sport, but fortunately these were not of a very serious nature. The sun was bright and just a slight breeze blew over the course, but the time of the boats was very little affected by it. The "field" was considerably reduced because of numerous disappointments, but ten boats made a start on the different days.

START OF SATURDAY'S RACE. HELOISE, P. D. Q. II AND BABY RELIANCE III IN THE FOREGROUND

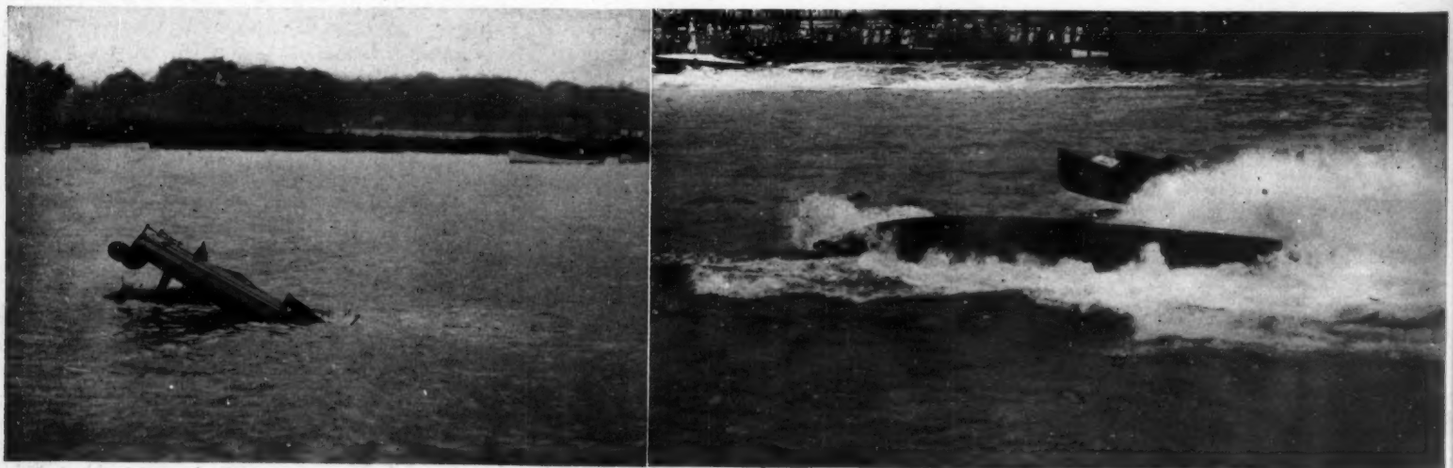
The course was oval shape, of five miles to the lap, and laid out so that the start and finish was directly in front of the judges' stand. Remembering the fatal accident to the famous Dixie IV, which was wrecked on the breakwall, the race committee placed the upper turning stake in the center of the river some distance from the shore.

By noon of the first day the broad expanse of the Niagara was dotted with hundreds of craft of every size and description—all in holiday attire. The United States Revenue Cutter Morrill patrolled the course, assisted by the Naval Training Ship Hawk, and incidentally gathered evidence against about forty owners of boats for violating the navigation laws in not carrying the necessary lights and equipment.

Thursday morning was consumed in tuning up the racers and running off the speed trials. A number of owners declined from showing what they could do. P. D. Q. II, driven by Mr. Miles, started off with a mile up stream in 1.35 at the rate of 37.89 miles per hour. Down stream his time was 1.27 or 41.38 miles per hour. Baby Reliance II shot over the course in 1 minute 17 seconds, or at the rate of 46.75 miles per hour. Down stream she negotiated the course in the astonishing time of 1 minute 10 seconds, or 51.42 miles per hour. The Gretchen III did not go over the measured mile.

The Baby II, fresh from the Huntington races, got off in the lead in the first race, which was for boats 32 feet or under, 30 miles, and was never headed. Gretchen III, the new 20-foot hydroplane built by Mr. Hubbard to retain his title to the E. R. Thomas trophy and the International Interlake Championship, was third over the line in the wake of Baby Reliance III. Next came Heloise and P. D. Q. II, with the Question bringing up the rear. The latter developed some trouble and had to retire. All of the other speeders kept their same positions with the Baby II, slowly pulling away and finally lapping P. D. Q. and Heloise. The real race for more than 15 miles was between Gretchen and the Baby III. During the sixteenth mile, at the upper stake, something went wrong with Gretchen, and she lost some ground. Again, on the last lap, within sight of the finish line, she stopped dead and had to

(Continued on page 264.)



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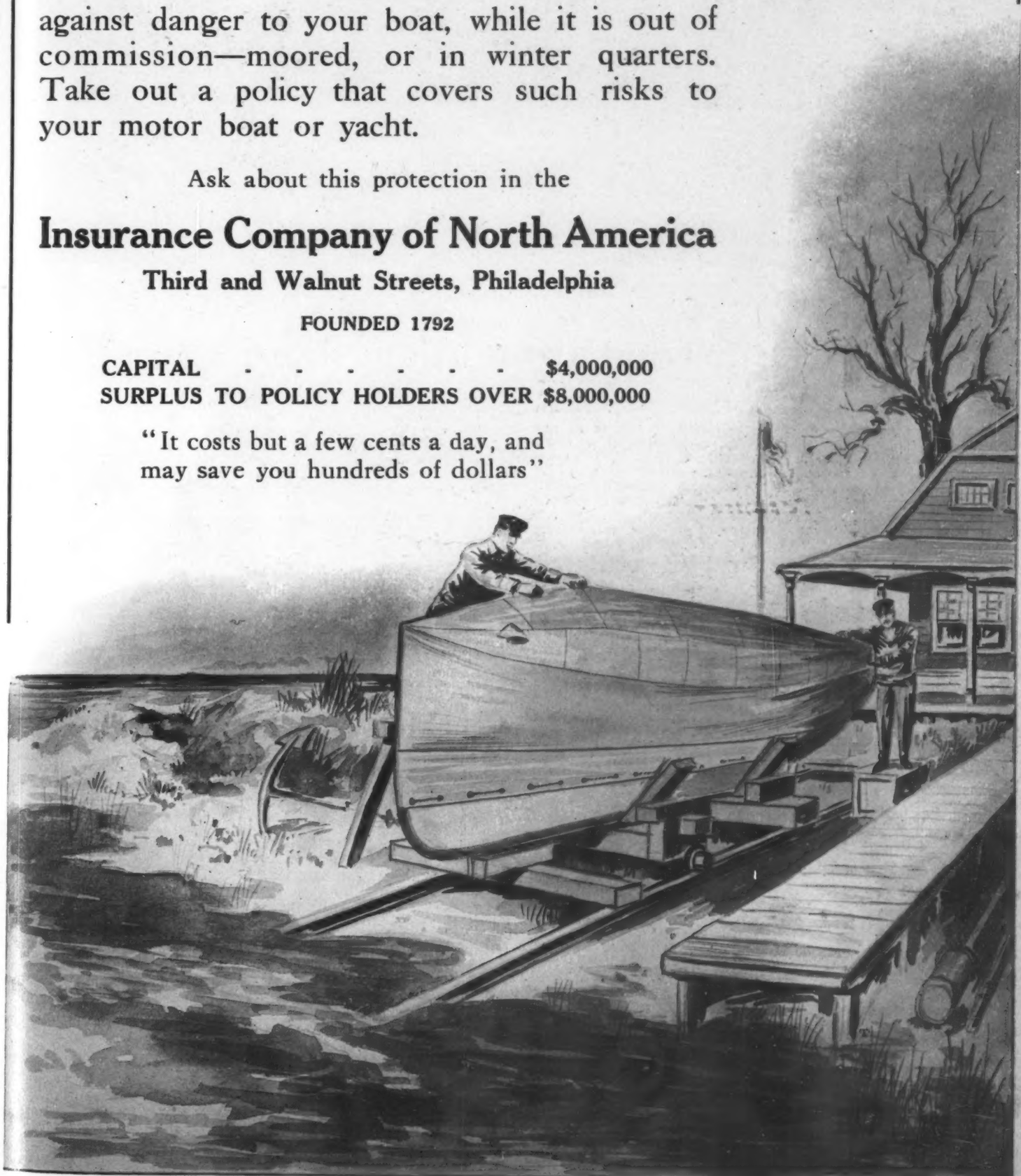
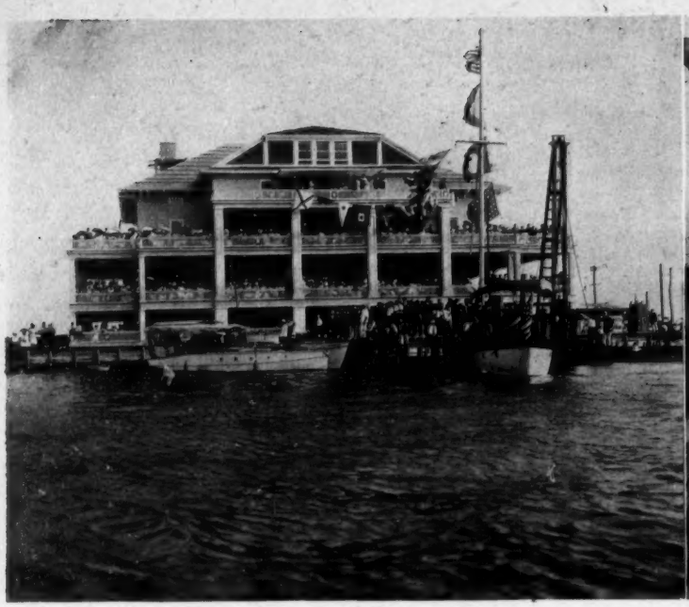


Consult YACHTING'S Information Department on any of your problems. Its service is absolutely free.



NEW HOME OF THE OCEAN CITY YACHT CLUB

VIEW FROM THE UPPER VERANDA

Driftwood from Alongshore

Opening of Albany Yacht Club's New Home

The Albany Yacht Club celebrated the official opening of its new home on September 2 with all ceremonies fitting to the occasion. In the morning there was an informal reception at the club house, which was well attended in spite of the somewhat inclement weather.

At 1:15 things really started with a fleet parade of more than eighty gaily dressed boats, headed by Commodore McCarty's Iris; it was just one sea mile from the head to the end of the parade. After steaming past the club house and being reviewed by an assemblage of non-boat-owning members and guests, among whom were representatives of eleven different yacht clubs, the squadron broke column and the regatta was started.

Thirty-four prizes had been presented for the seven major races and the canoe events. The largest number of boats started and the closest racing took place in Class C, for cabin cruisers rating 40 or over. Their course was 10 miles, and for the first round it looked as though the leaders were lashed together. The final winner was C. R. Butler's Spindrift, which has had such marked success in all her races this season. Three cups were given for this event.

Another unusually spirited contest occurred in the free-for-all power boat race, which Lansing De Long's Elmer-L II captured after a 20-mile drive, running a measured mile on the course in 1.57.

This boat also took first honors in her own class—power boats rating 22 miles and better. She is a displacement boat, 30 feet long, 3 feet 2 inches beam, driven by a Smalley 4-cylinder, 28-horsepower engine. This victory makes Mr. De Long's twenty-eighth win since 1910.

The canoe events which immediately followed the major events were well contested and drew an interested gallery from the club house and shore.

The day's celebrations were finished with a banquet and ball. During the evening a conference of the representatives from neighboring clubs was held, with the purpose of forming a new association to be known as the Hudson-Champlain Yacht Racing Association.

The new club house is a commodious and thoroughly modern structure of brick and concrete, 90 by 36 feet. In the basement there is storage space for over one hundred rowboats and canoes. On the first floor is located the main assembly hall, which is 67 by 33 feet, and has long French windows opening upon balconies on three sides. The grill room and committee rooms for various purposes are on the upper floor.

Great credit is due the present officers of the club, who through their enthusiastic support of the idea and a year's hard, persistent effort, have made this building possible. They are: Commodore McCarty, Vice-Commodore C. R. Butler, Fleet Captain H. Millard, Secretary V. C. Heidrick, Treasurer H. Snow.

A summary of the regatta follows:

CLASS "F"—OPEN BOATS, UNDER 10 MILES PER HOUR. COURSE, 5 MILES

		Corrected Time.
Florence H.	1st Prize	27.15
Helen K.	2nd Prize	34.32
Hamilton	.....	34.38
Lassie	.....	35.41
Anna Julia	.....	40.17
Kathryn	.....	46.47
Margaret K.	.....	1.07.11

CLASS "A"—DISPLACEMENT BOATS, OVER 22 MILES PER HOUR. TWICE AROUND 10-MILE COURSE

		Corrected Time.
Elmer-L II	.....	46.00
Comet IV	Cylinder Head Broke	....
George I	Engine Trouble	....

CLASS "C"—CABIN CRUISERS, RATING OVER 40. COURSE, 10 MILES.

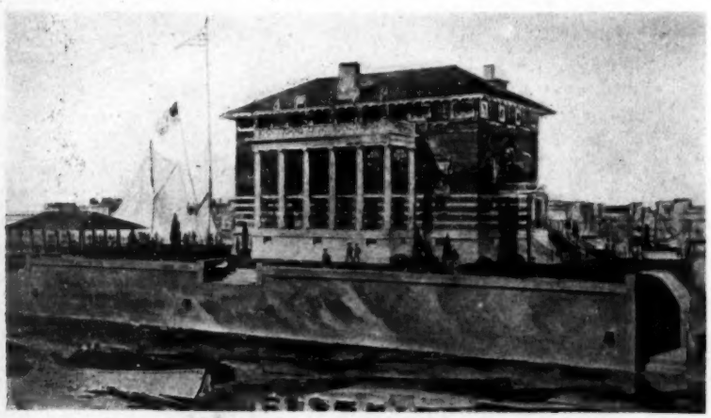
		Corrected Time.
Spindrift	1st Prize	58.33
Widgeon II	2nd Prize	1.01.09
Buster M	3rd Prize	1.01.35
Anna K	.....	1.03.15
Elizabeth M	.....	1.05.11
Louise	.....	1.06.29
Glen	.....	1.07.18
Comet I	.....	1.08.03
Ella R	.....	1.09.13
Joe B	.....	1.17.35

CLASS "B"—DISPLACEMENT BOATS, OVER 16 AND UNDER 22 MILES PER HOUR. COURSE, 10 MILES.

		Corrected Time.
Comet III	1st Prize	21.06
Lemon	2nd Prize (had engine trouble)	26.51
Horace G	.....	29.38
Nymph	(Scratch)	40.06

CLASS "D"—CABIN CRUISERS, RATING UNDER 40. COURSE, 5 MILES.

		Corrected Time.
Thendaria	1st Prize	37.52
Rexall	2nd Prize	39.52
Wanderlust	.....	42.51
Rekab	.....	44.59
Ajax	.....	50.32
Romp	.....	44.42



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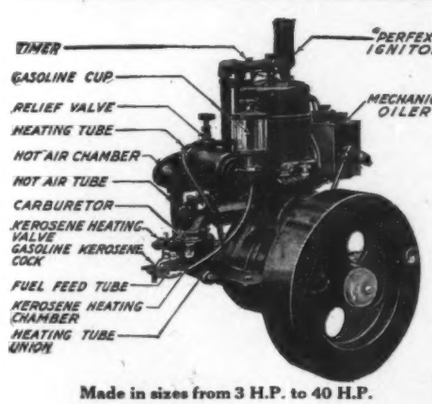

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THE STAMFORD FOUNDRY COMPANY
Established 1830 — STAMFORD, CONN.

The New Ocean City Yacht Club House

Three thousand people, in yachts, motor boats, automobiles and on foot looked in on the opening day of the magnificent new Ocean City Yacht Club house, Saturday, August 31, and from the congratulations that passed to the members from all sides, the building committee and every individual member of this hustling South Jersey aggregation may well feel proud of their achievement. After working day and night with a force of 150 men for three months the builder turned the completed club house over to the building committee on the night of August 30, and on this night, preceding the formal opening day, the members got together in a big smoker and celebrated the opening of the new home with an enthusiasm that is bound to carry the big project through the years to come.

The club has everything that man could wish for in the way of comfort and yachting facilities. The big reception and lounging room on the second floor is richly furnished, and one does not look for finer interior decorations in the big hotels along the coast. On the third floor is a brilliant ball room of green and white with fully equipped stage. Back of the balconies of the ball room, and extending around all four sides of the building, are the sleeping apartments, in which visiting yachtsmen and their friends will find all that they look for at home. The basement is exclusively for the men, with showers, lockers, locker rooms and smoking rooms.

Opening day was one continuous good time from 10 o'clock in the morning until midnight. At noon a luncheon was served to 200 invited guests and the representatives from other clubs who had come to see and enter the afternoon races. An excellent band entertained the "bunch" until 2 o'clock, when the gun boomed for the first race. Those who rushed to the verandas when the preparatory gun announced the beginning of the afternoon's sport were greeted by a sight that is seldom witnessed in the waters of New Jersey. Three hundred and forty pleasure craft of every description, all dressed with regatta bunting and the contents of signal lockers, were at anchor, forming a long lane down both sides of the first leg of the course. Whistles, bells and horns saluted the club after the first gun, flags were dipped, and the first race was on.

OF INTEREST TO THE SKIPPER

New Vim Agency

The Vim Motor Company, of Sandusky, Ohio, has completed arrangements with the Lunt-Moss Company, 43 South Market Street, Boston, Mass., whereby the latter firm will act as representatives for the well-known Vim Motor and its accessories in the New England States, and will carry a full line of Vim Motors and accessories at their store-room at the above address. As Mr. George E. Parker, who is manager of the marine engine department for the Lunt-Moss Company, has had many years' experience in the marine engine business, and is well known throughout the New England States, it is to be expected that the Vim Motor Company will secure a good business through his efforts in the territory named.

Disco Brings Out a New Model for 1913

The Ignition Starter Company, of Detroit, Mich., which manufactures the Disco Starter for gas engines which was so largely used by leading automobile manufacturers during the season of 1912, have just announced their Model 16 Disco. The distributor is similar to the one used on the original Disco Starter and embodies the same principle; the operation is slightly different, in the fact that the valve is a needle valve, and is opened and closed by means of the handle, which is turned to the right and turned back again instead of making the complete revolution as on the former model. This makes an absolutely positive valve, and makes it impossible to admit the gas into the engine by means of two distributing charges instead of one, forming thereby a more perfect explosive mixture.

The engine valve is a combination check valve and priming cup, which has the unique feature of being self-cleaning. When the lever is in an upright position the check valve is working, and is so placed as to admit the gas from the distributor into the engine, but will not allow any of the engine gases to go back through the tubing. Turning the priming cup handle to the left opens a passage past the ball check direct into the engine for priming purposes, and turning it to the right opens a passage from the engine through the priming cup past the ball check, so that if opened in this position while the engine is running it will blow any particles of carbon or dirt past the ball and out through the priming cup. This check valve is a distinct advance in gas starter design, and logically becomes a part of the Disco equipment.

Two More Sterling Racers

Two more speedy boats have just been added to the fleet of Sterling-powered racing craft. Coleman duPont, of Wilmington, Del., owner of Tech, Junior, the fast little 20-footer, has just installed an eight-cylinder, 150-horsepower Sterling racing machine in his hydroplane. The other one is the U. U. IV, the 26-foot hydroplane owned by Ward and Theodore Wickwire, of Tonawanda, N. Y. An eight-cylinder, 150-horsepower high-speed machine now powers this outfit. These engines are similar to those used by John J. Ryan and Commodore J. Stuart Blackton in their Baby Reliances.

A Speedy Hydroplane in the Northwest

In the Puget Sound Championship Power Boat Regatta, held July 23, 24 and 25 on Lake Whatcom, under the auspices of the Lake Whatcom Motor Boat Club, of Bellingham, Wash., High Ball, of Everett, which is owned by Bailey Hilton, of that city, and powered with a 24-horsepower Type "G" Fairbanks-Morse, won the championship in the 26-foot class.

The High Ball is capable of making a speed of 31.7 miles per hour on a straightaway course. The speed maintained in the 20-mile race was 27.58 miles per hour, the course being 2½ miles in length, which necessitated eight complete turns in covering 20 miles. The speed maintained in the 50-mile event over the same course, in which twenty complete turns were made, was 27.7 miles per hour.

High Ball has the distinction of being the smallest powered boat for its displacement entered at this regatta. In addition, it was the only boat which came through the meet with an absolutely clean score. No engine or mechanical trouble of any kind whatever was experienced, and the boat was always ready to start in each race at the appointed time, and always finished. All told 160 miles were covered at racing speed during the three days on which the races were held. It was remarked by spectators who attended the three days' races that they had not heard the High Ball's engine miss an explosion during the whole time.

The Gray Motor Company Increases Facilities

The Gray Motor Company, of Detroit, Mich., have recently acquired a large addition to their plant by leasing another factory building adjacent to that now occupied by them. The new building is 200 feet by 50 feet, of steel and concrete, with monitor roof, affording a well-lighted shop.

Orders have been placed for several new machines, so that with the additional floor space and equipment this company's production will be increased by more than 30 per cent. Purchase orders have been placed for a great deal of raw material for next year's output, and the factory will shortly begin working to its limit of production in order to have a large quantity of engines in stock for the 1913 season.

Speaking of trade conditions during 1912, Mr. O. J. Mulford, president of the Gray Motor Company, said that his company's orders for marine engines had exceeded the number received during the same period last year by more than 10 per cent, and that their stationary engine business had almost doubled. In his opinion motor boating is "coming back," due partly to the elimination of some of the cheap motor cars, and partly to a reaction among the masses who had become motor mad. The desire for a clean, cheap, safe, healthful pleasure is growing strong, and the dustless and tireless advantages of motor boating are calling back many whose allegiance has been diverted to other pleasures.

The recent embarrassment of the United States Motor Company, which at one time held the stock of the Gray Motor Company, will in no way affect the latter. Several months ago Mr. Mulford closed a deal whereby he and the men who for years have been associated with him in the management of the business purchased the entire Gray Motor Company, and it is in no way connected with the United States Motor Company.

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TWICE

Won by the Same "Buffalo" Engine

"INAMIC," owned by F. W. Sinks, Detroit, finished the 1912 Scripps Reliability Cruise, Detroit to Hamilton, WITH PERFECT SCORE She is powered with a 15 H. P. Medium Speed "Buffalo" Engine, and this Engine was the *only* "BUFFALO" ENTERED IN THE CONTEST.

In 1911, "Inamic," with the same 15 H.-P. "Buffalo" Engine, went through the Scripps Cruise with a perfect score. Moreover, both of the two other "Buffalo" Engines in that contest made clean scores.

Bear in mind that this contest is an annual event designed solely to test the relative reliability of cruising motor boats, and that *in both the years it has been held, the highest honors have gone to boats powered with "Buffalo" Engines.* Does it prove anything?

"The Engine of Constant Service"

In the motor boat races held during the Olympic Games at Stockholm, the greatest number of prizes were won by boats powered with "Buffalo" Engines, including the International Cup, the King's honor prize and the Ernst Sachs honor prize.

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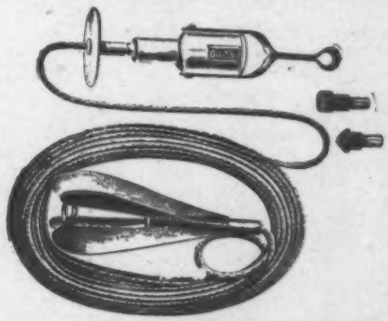

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The only large *sweet* chestnut in the world.

Bears the first year. The nuts average 1 to 2 inches in diameter.

United States Pomologist, G. B. Brackett, says "It is of large size, fine appearance and excellent flavor."

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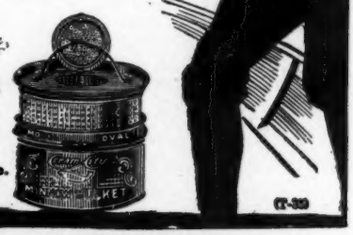

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Closets from $25 to $50
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GUS. A. DIEM
Formerly Curtiss Co.
20 Fulton St. New York City

Twelve Months in a Spouter

(*Continued from page 244.*)

sea. The Captain called me to him and placed a Bible in my hands.

"Read a passage of Scripture," he said.

Dumfounded that I should be called upon to officiate at the burial service over the man I had hated, I took my stand on the main hatch at the head of the body and prepared to obey orders. No passage to fit my singular situation occurred to me, and I opened the book at random. The leaves fell apart at the seventh chapter of Matthew, and I read aloud the section beginning:

"Judge not that ye be not judged. For with what judgment ye judge, ye shall be judged; and with what measure you mete, it shall be measured to you again."

At the close of the reading the captain called for "The Sweet Bye and Bye," and the crew sang the verses of the old hymn solemnly. When the full-toned music ceased, two sailors tilted the gangplank upwards and the remains of the Night King slid off and plunged into the ocean.

As the body slipped toward the water a Kanaka sailor caught up a bucket of slop, which he had set aside for the purpose, and dashed its filth over the corpse from head to foot. Wide-eyed with astonishment, I looked to see instant punishment visited upon this South Sea heathen who so flagrantly violated the sanctities of the dead. But not a hand was raised, not a word of disapproval was uttered. The Kanaka had but followed a whaler's ancient custom. The parting insult to the dead was meant to discourage the ghost from ever coming back to haunt the brig.

(*To be Continued.*)

The 60-Foot Cruiser "Voyager"

(*Continued from page 251.*)

length, is finished in African mahogany throughout, and receives light and ventilation from jump-and-hinge windows and deck hatch. Two berth transoms are in this cabin. The backs fold so as to make up seats in daytime and to conceal bedding, which can be rolled up behind the backs when not in use. Lockers, book racks, desk and victrola stand are provided in this room.

The owner's stateroom is located aft, and is fitted with two single berths, dresser, wardrobe, and scuttle hatch over. Toilet and wardrobe compartments are adjoining.

One of the most pleasing features about the boat is the large bridge deck amidship, which will comfortably seat 15 to 20 people. Another feature is the outside sleeping compartment over after house, with leather mattress on berth. Special curtains are arranged so as to give privacy and yet have all the advantages sought in the outside sleeping porth.

The Worst Season on Record in England

(*Continued from page 240*)

weather still looked bad, but about noon it cleared up and the small classes raced at Southampton, our class carrying small topsails, as the water was sheltered.

Every day we hoped for an improvement, but if it eased up a bit it was only to take breath for another blow, and, as a natural result, owners and crews got thoroughly disheartened and were glad when the racing finished.

No one objects to a fair share of hard winds and an occasional heavy blow, but with everything wet through for several weeks and no chance to get dry clothes or sails, it is little wonder the hands got sick of it, even in the hard weather boats. It may easily be imagined how our crew felt, with a boat which had been top of her class at Kiel in light to moderate winds and was no use at all in a hard blow.

Cowes Roads, which was full of yachts at the beginning of the celebrated "week," soon emptied, and by the end of the week more than half the yachts had left for the more sheltered anchorage of Southampton, or to lay up in disgust.

FASTEST BOAT IN THE WORLD

Size, 14 in. Long
3 in. in Diameter

IS SAVED BY *Pyrene* TRADE MARK FIRE EXTINGUISHER

When flames threatened to destroy "Tech, Jr.", which cut through the water at the rate of 58 miles per an hour, the fastest time ever made on water, this marvel motor boat was saved by the quick use of a PYRENE FIRE EXTINGUISHER. All the boats competing in the elimination trials at Huntington, L. I., were equipped with PYRENE.

Solid Brass . . . $7
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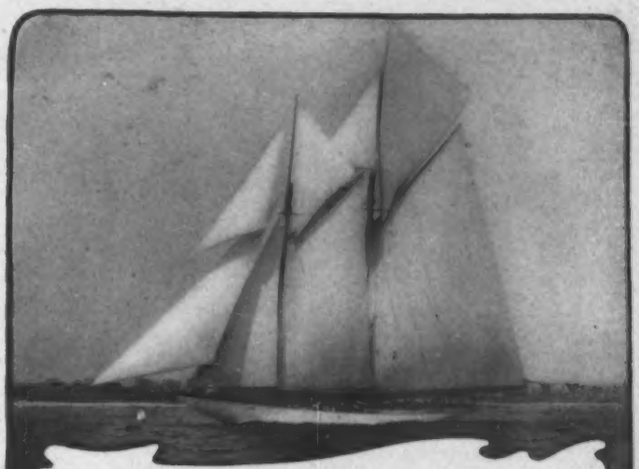

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Best corresponding record DIXIE IV 40.40 miles per hour.

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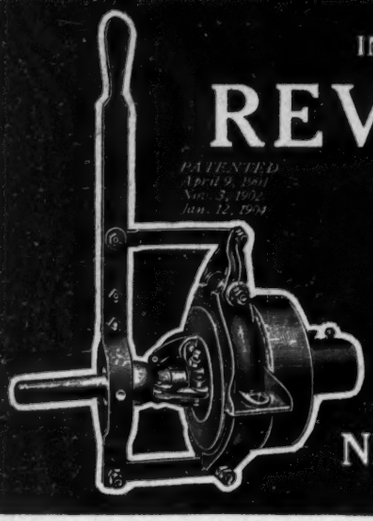

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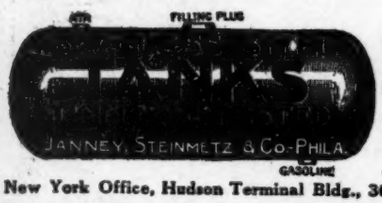

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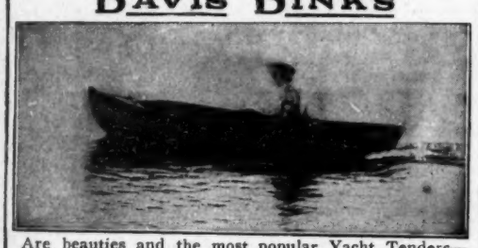
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Lengths from 16 to 30 feet. Safe, Silent and Non-Sinkable. Speed and Express Boats also. Illustrated folder on request when stating requirements.
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Good for pulling boats out of water. One man can lift or pull a ton. One ton pull will draw out a large boat. Get our No. 4 block complete with rope and capstan for $8.00. Expressage prepaid.

Baby Reliance II Sweeps Field

(*Continued from page 256.*)

be towed in. Joe VanBlerck, who was wheeling her, announced that he had broken his gear box. The Baby II covered the entire 30 miles without a hitch at the remarkable rate of 45.55 miles per hour.

The start of the second race for the Chamber of Commerce trophy was most spectacular and included several new entries. Lawrence Buhl had shipped his Neptune III from Detroit, in company with the Thelma; the Wickwire brothers had put the U. U. V. in running order, and C. E. Crawford entered last year's Reliance IV. As the gun was fired a grand scramble resulted to get away in the lead. Reliance IV, an open boat, was swamped by the wash of two others, and went down before she had a chance to cross the line. The two members of her crew were struck in some way and severely injured. They were pulled aboard one of the patrol boats.

Baby II spun around the course, lap after lap, her engine running smoothly, and slowly pulled away from the field. The contest again resulted in a two-cornered fight between the Baby III and Neptune III for second place and P. D. Q. II and Heloise for third honors. Baby II finished the 30 miles in 43 minutes 39 seconds.

It was to be regretted that Gretchen III was not repaired in time to enter the 35-mile race for the International Interlake Championship and the Edwin Ross Thomas trophy on Saturday. Mr. Hubbard won this last year with Gretchen II, and had the honors gone to the same person again the handsome $2500 trophy would have been his.

Baby Reliance II set out to make a clean sweep of the regatta, and Commodore Blackton made it known to the judges that he intended to "let 'er out" on the last lap. He again got away in the lead with the Baby III, Neptune III, Heloise, P. D. Q. II and Thelma following in the order named. On the second lap Neptune overtook Baby III and held the advantage to the finish. On the third lap P. D. Q. II passed her rival Heloise, and the Thelma retired. The tiny Baby II duplicated her stunt of lapping P. D. Q. and Heloise with a remarkable burst of speed off the judges' stand on the down leg. Neptune was running beautifully, but she could not overcome the lead the little Baby had gained and she had to be content with second place. Baby III, evidently in trouble, managed to finish in third place.

The last lap of the 35-mile race the Baby II fairly flew over the water. She made the round at the rate of 47.37 miles per hour—the fastest five miles ever made in competition.

Baby Reliance II is 20 feet long and powered with an 8-cylinder, 150-horsepower Sterling engine. Baby Reliance III is 26 feet long and driven by a similar engine. Neptune III is 26 feet long and also has an 8-cylinder, 150-horsepower Sterling engine. Gretchen III is 20 feet long and has a 12-cylinder, 250 horsepower VanBlerck engine. P. D. Q. II is 20 feet long and has a six-cylinder, 65-horsepower Sterling engine. Heloise is 26 feet long and has a 60-horsepower Woolsey engine.

The entire meet was admirably handled and great credit is due to Commodore William J. Gunnell, General Chairman C. A. Criqui, Fleet Captain Harold Kelley, and their assistants.

SECOND DAY'S RACE. 30 MILES OPEN.

	Elapsed Time.	Actual Time.
Baby Reliance II	43:49	43:39
Baby Reliance III	45:50	45:38
Neptune III	47:11	46:48
P. D. Q. II	48:42	48:37
Heloise	49:09	49:02
Thelma IV.	53:18	53:04
U. U. V.	.....	.....
Question	Capsized	
Reliance IV.	Capsized	

THIRD DAY'S RACE. 35 MILES INTERNATIONAL INTERLAKE CHAMPIONSHIP FOR E. R. THOMAS TROPHY

	Elapsed Time.	Actual Time.
Baby Reliance II	45:25	45:20
Neptune III	48:43	48:30
Baby Reliance III	50:10	50:09
P. D. Q. II	56:21	56:09
Heloise	57:00	56:54

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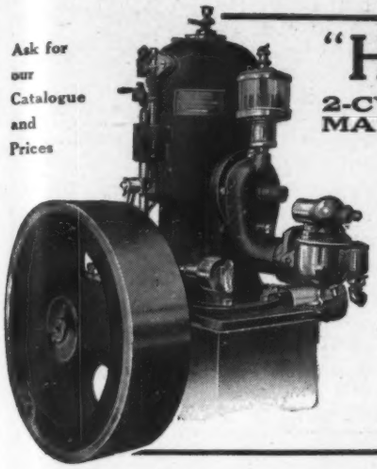

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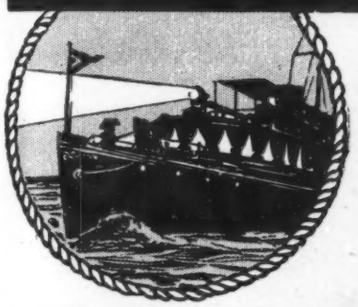

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This motor was a **regular stock model** in **every** respect, 5½ inch bore by 6 inch stroke.

During this trip it made 17,280,000 revolutions, each piston traveling 3273 miles.

The Scripps is a Power Plant of Proved Proficiency.

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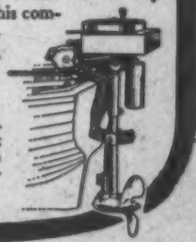

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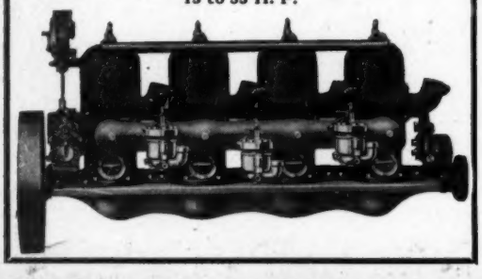

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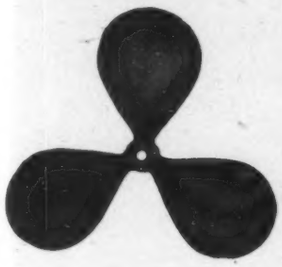

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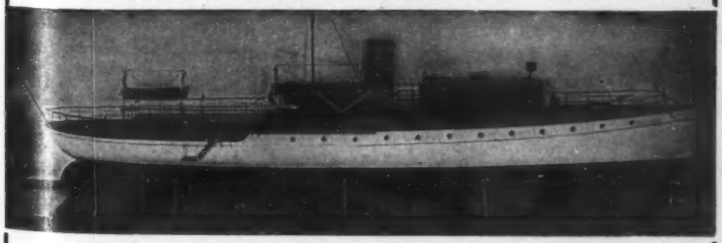

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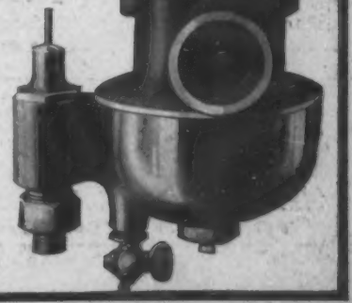

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